RCRA FACILITY ASSESSMENT

GNB INCORPORATED
2700 SOUTH INDIANA AVENUE
VERNON, CALIFORNIA
CAD097854541

SUBMITTED TO :

ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 HAWTHORNE STREET
SAN FRANCISCO, CA 94105

SUBMITTED BY:

STATE OF CALIFORNIA DEPARTMENT OF HEALTH SERVICES
TOXIC SUBSTANCES CONTROL PROGRAM
REGION 3
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OCTOBER 1990

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EXECUTIVE SUMMARY

A RCRA Facility Assessment (RFA) was performed to identify and evaluate solid waste management units (SWMUs) and other areas of concern at the GNB, Inc. facility in Vernon, California. The first stage, the Preliminary Review (PR) evaluated existing information to identify and characterize potential releases to the environment. The RFA Preliminary Review utilized records review, data evaluation, and interviews to evaluate the potential for releases of hazardous constituents from SWMUs identified during the assessment. Primary sources of information utilized for this review included the facility's RCRA Part B Permit Application (Operation plan); RCRA and CERCLA files from EPA Region IX; files and inspection reports from the California Department of Health Services (DHS); files and inspection reports of the Regional Water Quality Control Board (RWQCB), Los Angeles Region and the South Coast Air Quality Management District (SCAQMD). This information was used to focus investigative activities during the second stage of the RFA, the Visual Site Inspection (VSI) which consisted of an on-site visit. The purpose of the VSI was to confirm and supplement information obtained during the PR stage regarding potential or actual releases at the facility, and to determine if sampling and/or remedial measures are necessary. As a result of this review, a total of 38 SWMUs and 2 areas of concern were identified. Section 3 of this report identifies each of the SWMUs.

Eleven units were evaluated for documented releases to soil and/or groundwater and are listed as follows:

1. Unit 3.3 Battery Storage Area

   Common and frequent spills from spent and leaking lead-acid storage batteries occurred throughout the life of the unit. One distinct spill during the 1960's stoodout in the recollections of long time employees.

2. Unit 3.6 Earthen Acid Dump Pit

   Ongoing releases took place throughout the life of the unit and a sampling of the groundwater in 1987 shows that this pit was one of the prime contributors to acid, lead and other metal contamination of the groundwater.

3. Unit 3.9 Hard Rubber Chip Wastepile

   DHS has sampled the leachate from the hard rubber chip wastepile in 1987 and 1989 and both sample dates have shown hazardous levels of lead leaching onto the asphalt.

4. Unit 3.10 Old Battery Separation Building

The groundwater samples taken in 1987 shows that this unit has contributed to acid and lead contamination of the groundwater.

5. Unit 3.11 Old Mixed Metals Extrusion Building

TCE was used as a cooling medium during the life of the unit and sample results taken from groundwater monitoring well MW-11 shows TCE at 2300 ug/L.

6. Unit 3.12 Zinc Alloy Operations Area

Zinc concentrations at groundwater monitoring well MW-5 shows an elevated level of zinc measuring 150 mg/L indicating this unit may have contributed to groundwater contamination.

7. Unit 3.14 Smelting Pots

Spills were ongoing and frequent during the life of the unit and in the 1950's a spill of molten lead occurred requiring cleanup of contaminated soil to a depth of 35 feet.

8. Unit 3.15 Lead Oxide Building and Warehouse

Powdered lead was used in the production of lead oxide and on September 5, 1990 the walls of the building were washed down releasing lead into South Indiana Avenue and Bandini Boulevard causing an emergency response from the fire department.

9. Unit 3.24 Rainwater Retention Pond

The Regional Water Quality Control Board (RWQCB) has documented a potential release in August 1985. In August 1985 GNB drained water from the pond into the flood control channel and as a result water seeped under the pond's liner and damaged the liner. Samples taken by DHS on September 1, 1989 have shown the pond water to have hazardous levels of soluble lead.

10. Unit 3.28 Polypropylene Loading Dock

The DHS has sampled the polypropylene and polypropylene leachate and has found hazardous levels of lead in both. The polypropylene is shipped by an unregistered hazardous waste hauler (Wiley Sanders) to an unpermitted facility (KW Plastics in Bakersfield) and DHS has twice sampled polypropylene loads enroute and have found hazardous levels of lead leaking onto Interstate 5.

11. Unit 3.29 Crushed Drum Storage Piles

Samples taken by DHS in 1989 have shown hazardous levels of lead, and antimony to exist in the crushed drum storage piles located in the westyard.

1. INTRODUCTION

This RCRA Facility Assessment (RFA) is concerned with the GNB, Incorporated Facility which is located at 2700 South Indiana Avenue in Vernon, California. The report presents the review of Solid Waste Management Units (SWMUs) and the areas of concern at the facility and summarizes the results of a record review performed on the facility. Primary sources of information utilized for this review included the facility's RCRA Part B Application; RCRA and CERCLA files from EPA Region IX; files and inspection reports from the California Department of Health Services (DHS); files and inspection reports of the Regional Water Quality Control Board (RWQCB), Los Angeles Region; and the South Coast Air Quality Management District (SCAQMD). A Visual Site Inspection was also conducted to supplement the preliminary review and to determine if sampling or remedial measures are necessary. Section 1 describes the facility and its operations. The environmental setting is presented in Section 2. Section 3 provides a detailed description of all Solid Waste Management Units identified and the Summary of VSI is provided in Section 4.

GNB is located in Vernon, California on the northwest corner of Bandini Boulevard and South Indiana Avenue. The area directly surrounding the 24 acre facility is primarily industrial with the nearest residential area located approximately one mile south of the facility. The facility is operating under interim status (ISD) as a treatment, storage and/or disposal facility (TSDF). A Part A application was originally filed on August 8, 1980 by Gould, Incorporated, the former owner of the facility, and interim status was granted by the DHS and became effective on December 12, 1981. GNB Incorporated, Metals Division employs the the use of EPA identification number CAD097854541 at the facility.

GNB is a hazardous waste treatment and storage facility. The facility provides spent lead reclamation services from various manufacturing and waste generating industries in California and for states as far away as the Mississippi River and Canada. GNB smelts the lead bearing wastes and produces lead for use in industrial processes. Lead smelting activities were initially conducted at the site by Morris P. Kirk & Sons Inc. They operated between the years of 1922 to 1973. In 1973 NL Industries took over control of the operation. Morris P. Kirk & Sons became a division of NL Industries at that time. In 1979 Gould Inc. took control of the facility and operated the facility form 1979 to 1984. In 1984 GNB bought the facility from Gould and has operated the facility since that time.

The lead smelting facility presently owned by GNB has undergone significant changes since its inception in 1922. The facility initially began operations on the southeast corner of the present facility and

expanded dramatically over the next sixty years culminating in the reconstruction of the facility in 1982.

The 1984 RCRA amendments provided authority to EPA to require comprehensive corrective action on solid waste management units (SWMUs) and other areas of concern at facilities applying for Part B permits and those with RCRA interim status. The intent of the authority is to address previously unregulated releases of hazardous constituents to the air, surface water, soil, and ground-water, and the generation of subsurface gas. In order to accomplish this objective, a RCRA facility assessment is undertaken. This consists of a preliminary data review, a site visit and, when warranted, sampling and analysis.

1.1 FACILITY OPERATIONS

The GNB facility covers approximately 24 acres and has been used for lead smelting since 1922. Prior to 1922 the site was the location of a boneyard of a meat rendering plant. The secondary lead smelting facility presently being used was built by Gould Incorporated over the course of a year starting in 1981 and was not finished until the fall of 1982. GNB operates as a secondary lead smelter and reclaims lead from spent automobile and truck batteries, lead dross and other lead bearing wastes. Batteries, lead dross and other lead bearing wastes are usually received under Bills of Lading or Hazardous Waste manifests from various companies ranging as far east as the Mississippi River and as far north as Canada. In 1982 the previous owner, Gould, Incorporated constructed the present facility.

Upon receipt of the incoming batteries GNB places them into one of three battery receiving buildings located on site. The buildings measure 80'x150', 34'x80', and 34'x38'. Under the battery receiving buildings is an acid collection tank used for battery leachate runoff. The tank is 14 feet in diameter and 11 feet high with a capacity of 12,500 gallons. This tank is constructed of fiberglass reinforced polyester.

If possible GNB tries to unload the batteries directly to the raw material preparation system (RMPS) bypassing the battery receiving buildings. The RMPS is a fully mechanized continuous system which liberates and separates the spent lead acid battery components. Whole batteries which are partially drained of the sulfuric acid are conveyed from the battery receiving area to the hammermill system. There the batteries are crushed for the recovery of the lead bearing components and case material. Waste acid is drained off at the hammermill unit and is pumped to the muds holding tanks for treatment. The muds holding tank system consists of three 41,000 gallons fiberglass reinforced polyester tanks. Tanks 2 and 3 receive waste acid from the acid tank and from the hammermill conical collector, while Tank 1 receives

partially neutralized solutions from tanks 2 and 3. Each mud holding tank is 18 feet in diameter and 22 feet high. The recovered metal and paste are stockpiled in the reverberatory furnace feedstock room for subsequent recovery and production of lead. Battery components are then fed into the reverberatory furnace. The facility employs the use of two furnaces for the production of lead products; the blast furnace and the reverberatory furnace. The reverberatory furnace is used primarily to melt the metals and the blast furnace is used to separate the metals from the Slag waste product.

The blast furnace is also used due to its ability to handle the high volume of scrap to be processed at the facility but is limited in being able to process finely divided feed material. As a result the reverberatory furnace is used to handle a finer particle feed ,battery components, and for controlling antimony content. There are also a series of baghouses for the control of air emissions from the furnaces. The collected dusts are carried by enclosed a screw conveyor directly from the baghouses to the sumps and collected for recycling through the mud tanks. The baghouse slurry sumps are pumped periodically to the mud tanks by manually controlled pumps. Floor trenches exist throughout the RMPS area which collect leakage or spillage. Any flow in these trenches is routed to the mud holding tank system. Final containment is for the runoff is provided by the 2.3 million gallon rainwater impoundment.
GNB serves as a secondary lead smelter with the production of lead ingots as the final product.

1.2 WASTE GENERATION AND DISPOSAL

GNB is both a hazardous waste treatment facility and a generator of hazardous waste. It is not permitted to serve as a disposal site. Present industrial processes include the crushing of lead acid batteries, separation of materials, and the smelting of lead. GNB generates hazardous waste in the form of blast furnace slag/impurities, lead contaminated refractory brick, polypropylene chips and hard rubber from the battery casings, and contaminated soil and debris. Wastewater is also produced in conjunction with the production and recovery of lead and is treated on-site at the wastewater treatment unit. The brick, soil and debris is shipped under manifest as hazardous waste to the Chemwaste Management landfill located at Kettleman Hills, California. The polypropylene chip mixture has been shown to have hazardous levels of lead and is improperly shipped under a Bill of Lading to K.W. Plastics located in Bakersfield for reclamation of the polypropylene. The hard rubber chips from the battery casing is put into the furnace to be used for a reducing agent in the production of lead.

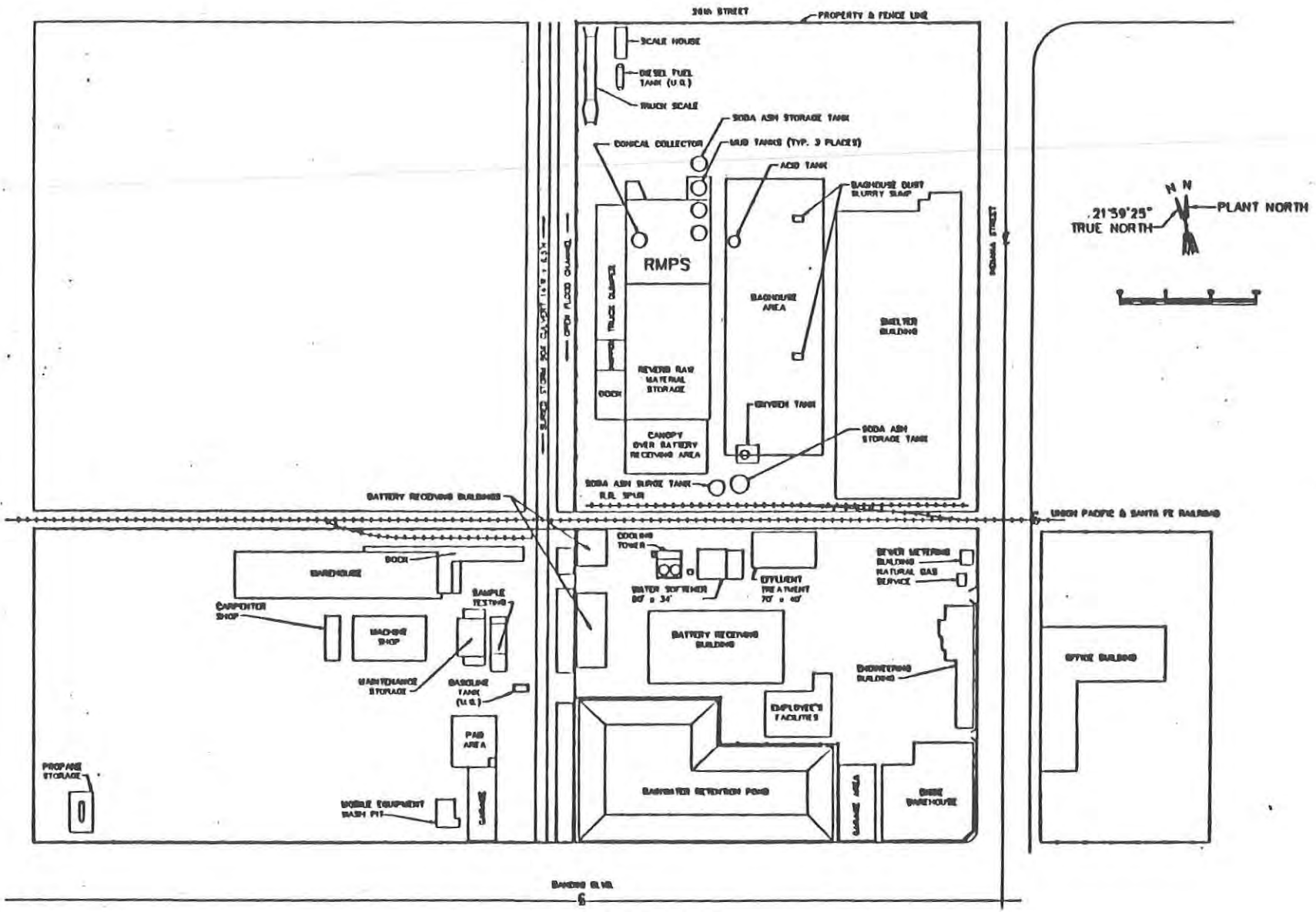
SCALE: 1:24000

1 1/2 0 1 MILE

PORTION OF SOUTH GATE AND LOS ANGELES QUADRANGLES

490-028

LAKE ENGINEERING, INCORPORATED 6000 LAKE FORREST DR. SUITE 550 ATLANTA, GEORGIA 30328	GNB, INCORPORATED LOS ANGELES, CALIFORNIA	USGS TOPOGRAPHIC MAP	FIGURE 1



490-015

1-5

LAKE ENGINEERING, INCORPORATED 6000 LAKE FORREST DR. SUITE 350 ATLANTA, GEORGIA 30328	GNB, INCORPORATED VERNON, CALIFORNIA	PLANT PLOT PLAN

FIGURE
2 4.3

2.0 ENVIRONMENTAL SETTING

2.1 Physical Surrounding and Land Use

The facility is located in a heavy industrial area (M-2-Zone). The immediate vicinity includes the Santa Fe Railroad yard to the north and the Baker rendering plant to the south. The nearest resident is located approximately one mile south of the facility across the Los Angeles River. The streets around GNB are paved for heavy traffic with sidewalks running along each side of the street.

The facility is surrounded by an eight foot high fence topped with barbed wire. There are four gates into the facility with two of the gates staffed with ADT security services.

2.2 Geology

The GNB facility is located in the Central Basin of the Los Angeles Coastal Plain. The geology beneath the facility consists of alternating layers of permeable alluvial sediments. The uppermost layer of alluvium is a medium to coarse grained Quaternary sand. The Quaternary sand is underlain by the Lakewood Formation, which overlies the San Pedro Formation. These alluvial sediments are characterized by poorly sorted silts, sandy silts and silty sands. The uppermost aquifer beneath the facility is the Exposition Aquifer which occurs at a depth of approximately 95 feet.

2.3 Holocene and Seismicity

There are no known faults within 3,000 feet of the facility and the site is not located within the Alquist-Priolo Special Studies (APSS) Zone. The closest APSS zone is located more than 4 miles north of the facility.

2.4 Floodplain

GNB is located near the Los Angeles River and has a flood control channel running through the middle of the facility but according to studies from the U.S. Army Corps of Engineers the property does not lie in or adjacent to the 100 year flood plain and is outside the predicted 500 year floodplain.

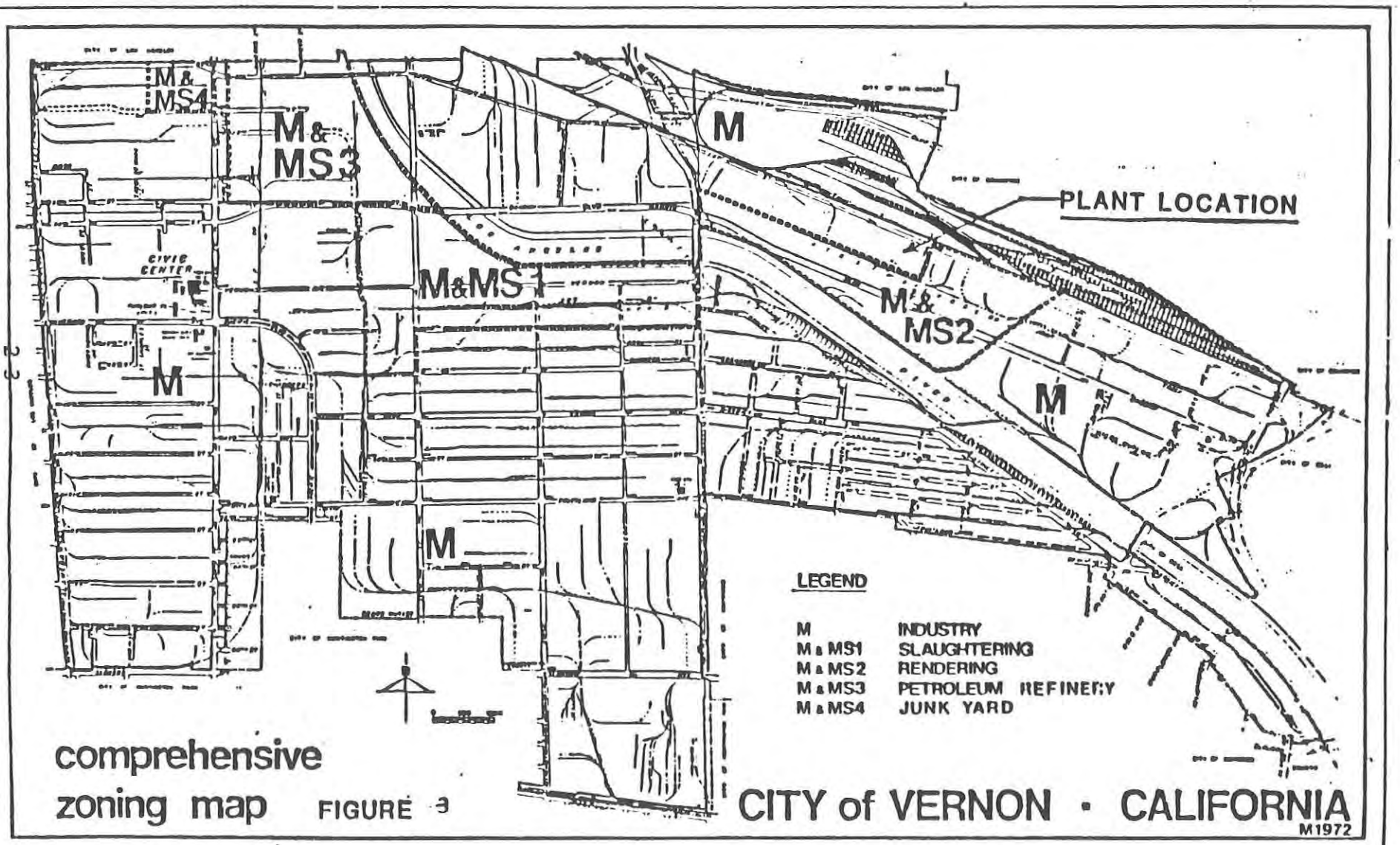
2.5 Wind Rose

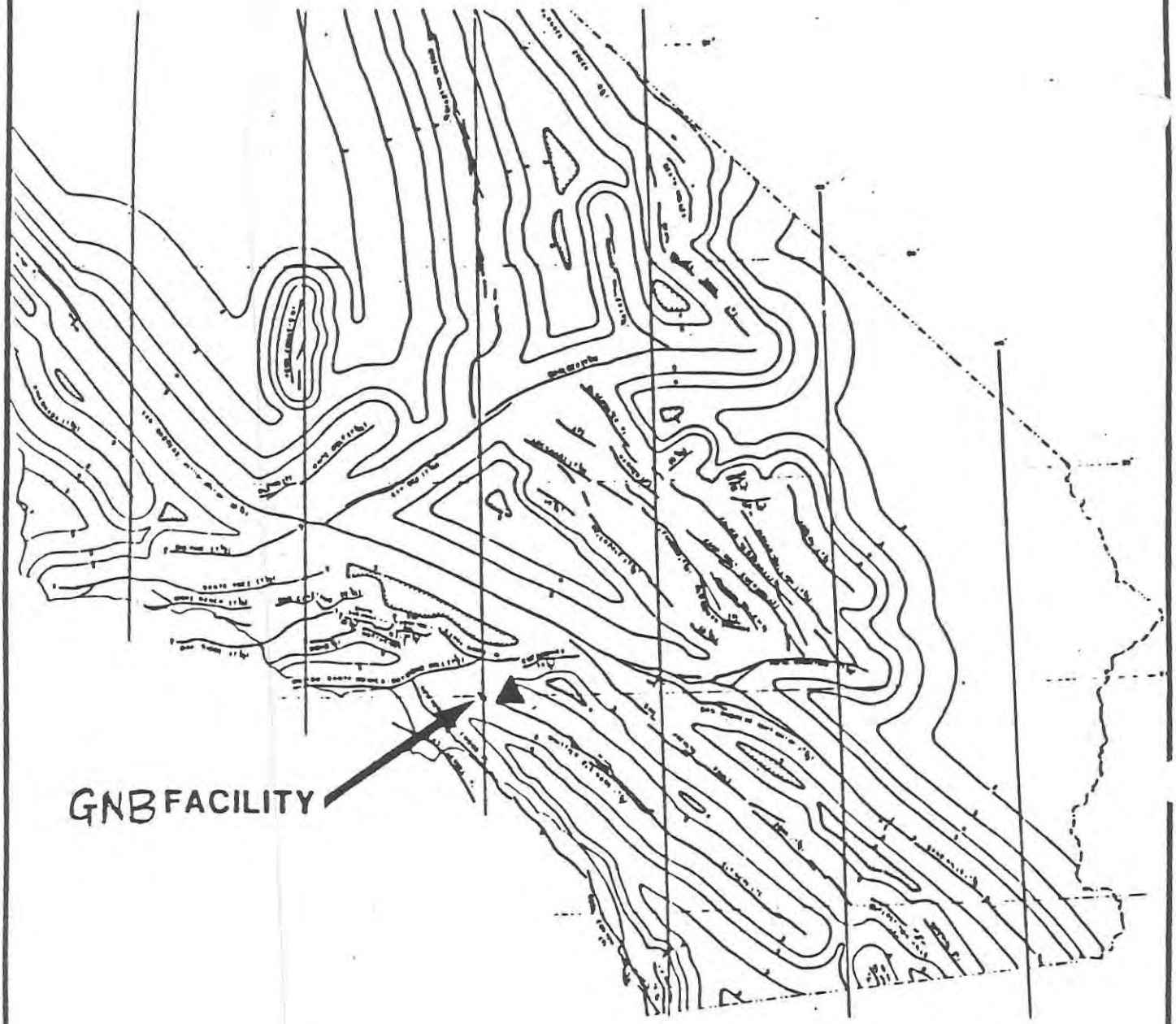
The prevailing wind direction is from the south west.

2.6 Hydrology and Hydrogeology

The GNB facility is located within the Central Basin area of the Los Angeles Coastal Plain. Groundwater within this area is located at approximately 70 foot depths within the Bell Flower Aquiclude. Underlying the Bell Flower Aquiclude from approximately 95 to 175 feet is the middle portion of the Lakewood formation designated the Exposition Aquifer. The Exposition Aquifer is underlain by the lower portion of the Lakewood formation designated in descending order as the lower Aquiclude and Gage Aquifer, respectively. The lower Aquiclude occurs from approximately 175 to 225 feet, followed by the Gage Aquifer from approximately 225 to 280 feet.

There is not sufficient information to determine the direction of groundwater flow. Groundwater samples obtained from the four on-site deep monitoring wells (See Fig 1, MW-5, MW-6, MW-7, and MW-8) exceeded California drinking water action levels for cadmium, lead, TCE, benzene, ethylbenzene, iron, manganese, zinc, chloride and sulfate.


M&
MS4
M&
MS3
M
PLANT LOCATION
M&MS1
M&
MS2
M
M
M
LEGEND
M INDUSTRY
M & MS1 SLAUGHTERING
M & MS2 RENDERING
M & MS3 PETROLEUM REFINERY
M & MS4 JUNK YARD
comprehensive
zoning map FIGURE 3
CITY of VERNON • CALIFORNIA
M1972



LEGEND

POTENTIALLY ACTIVE FAULTS

Approximately located

Number in parentheses is the maximum expected earthquake magnitude for the fault

Lines and arrows divide the San Andreas fault into four tectonic sections

Queries at the ends of a fault indicate lack of strong evidence for its activity

BEDROCK ACCELERATION CONTOURS

Units are decimal fractions of the acceleration of gravity, from .8g to .8g

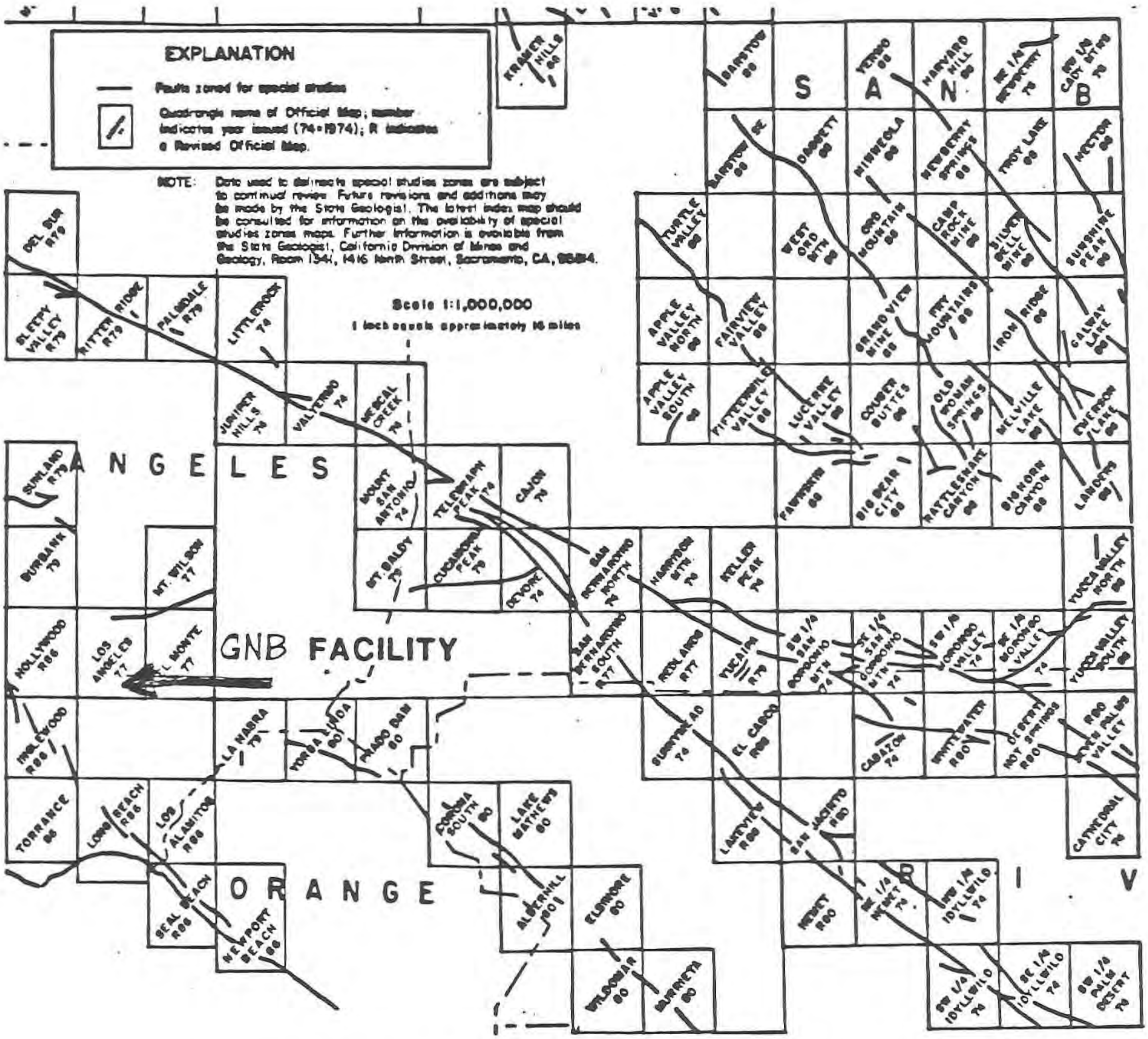
N

SCALE IN MILES

0 20 40 60 80

FIGURE 4
HOLOCENE AND SEISMICITY

Map Source: Roger Greensfelder-California Division of Mines and Geology 1972



Map Source: Department of Conservation Division of Mines and Geology 1985

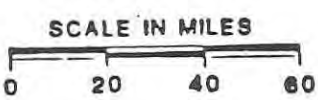


FIGURE 5
FAULT ZONES

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

LACC 103W (STATION) | Los Angeles C.C. (STATION NAME) | 1963 - 1974 (YEARS) | ALL (MONTH)

ALL WEATHER (CLASS) | ALL (HOURS (L.S.T.))

34°05', 118°18', 500', 855 N. Vermont (LOCATION)

45' (HEIGHT ABOVE GROUND)

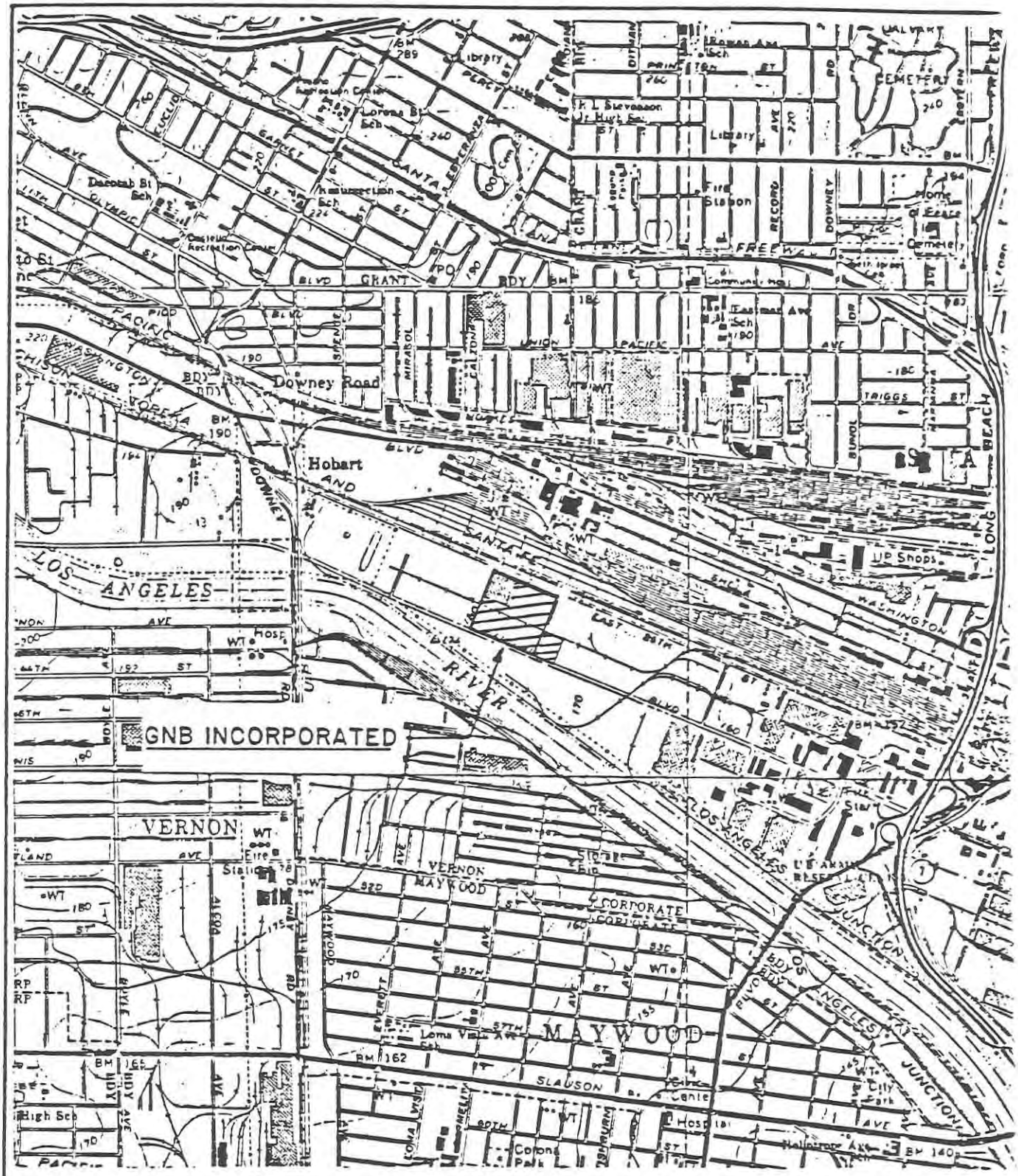
SPEED MPH DIR.												%	MEAN WIND SPEED
N												4.4	4.0
NNE												7.4	4.5
NE												10.6	4.2
ENE												6.3	3.8
E												5.0	4.1
ESE												3.4	4.6
SE												2.9	4.1
SSE												2.6	4.5
S												4.5	4.6
SSW												6.7	5.6
SW												17.8	6.5
WSW												16.5	6.5
W												5.7	4.4
WNW												1.6	4.9
NW												2.4	6.8
NNW												2.2	6.9
CALM	X	X	X	X	X	X	X	X	X	X	X		
												100.0	5.3

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS 96,105

Note: These data are available on an hourly basis.

Figure 6

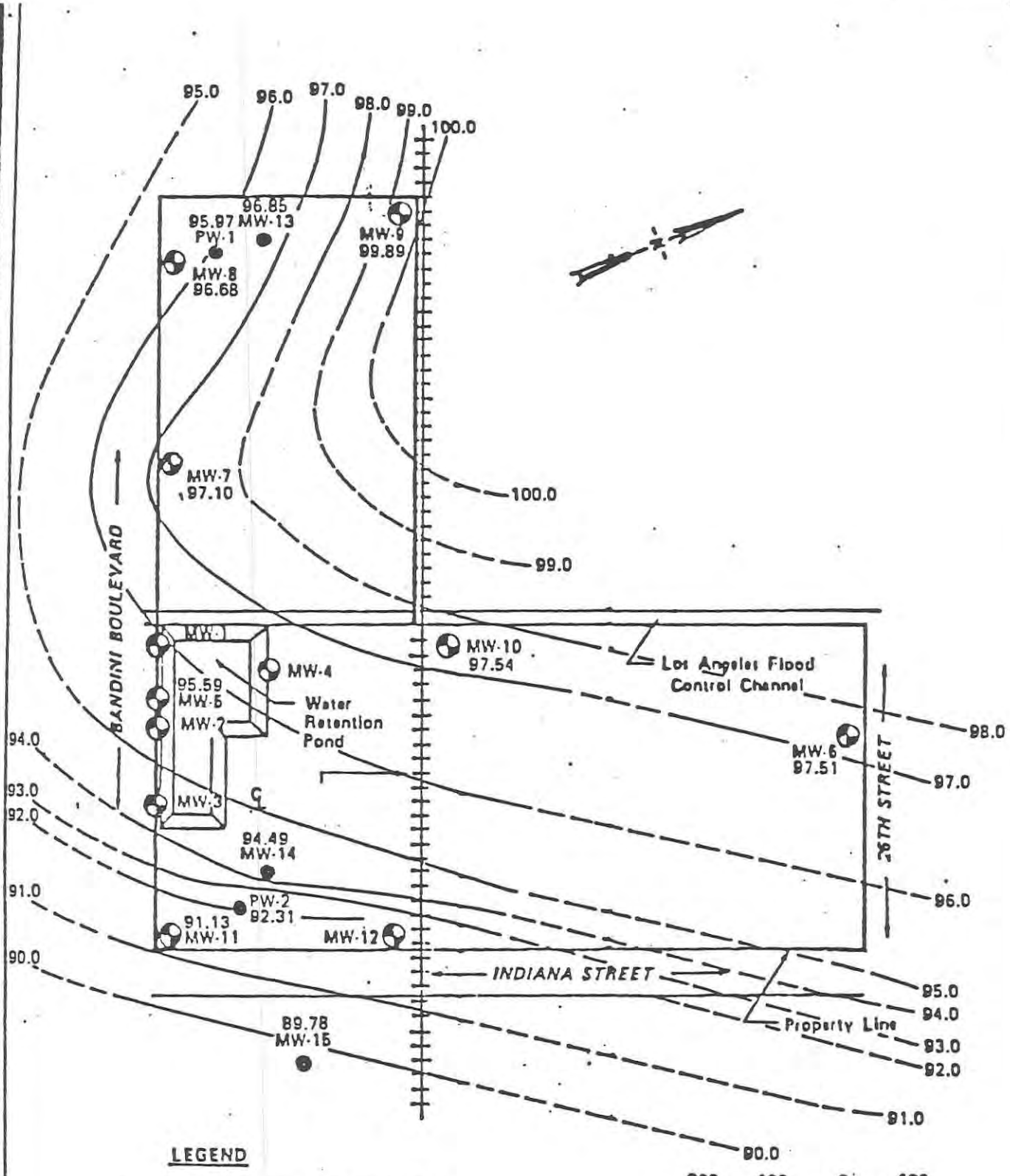


PORTION OF SOUTH GATE AND LOS ANGELES QUADRANGLES

490-028

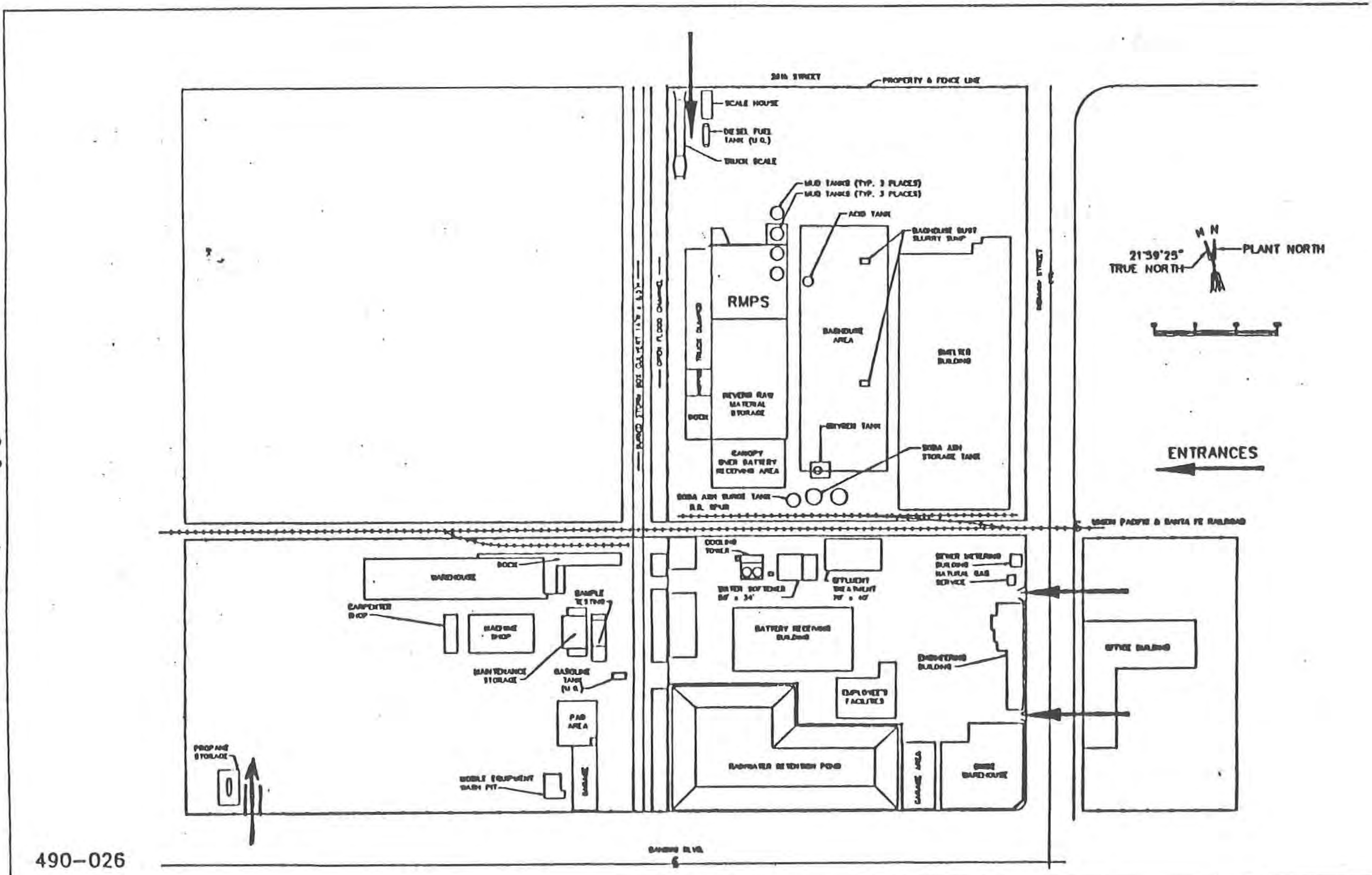
2-7

LAKE ENGINEERING, INCORPORATED 6000 LAKE FOREST DR. SUITE 350 ATLANTA GEORGIA 30328	GNB, INCORPORATED LOS ANGELES, CALIFORNIA	LOCATION OF WELLS WITHIN 1 MILE RADIUS	FIGURE 7



Project: GNB-VERNON Project No. 8141896D	LOCATIONS OF MONITORING WELLS AND ESTIMATED GROUND WATER GRADIENT	Fig. 8

WOODWARD-CLYDE CONSULTANTS



LAKE ENGINEERING, INCORPORATED
5000 LAKE FORREST DR. SUITE 350
ATLANTA, GEORGIA 30328

GNB, INCORPORATED
VERNON, CALIFORNIA

ACCESS MAP

FIGURE 9

3.0 DESCRIPTIONS OF INDIVIDUAL SOLID WASTE MANAGEMENT UNITS

Distinct Solid Waste Management Units (SWMUs) have been identified to evaluate potential on-site sources of releases to air, surface water, groundwater, soil and subsurface gas. A SWMU is defined as any discernible waste management unit at a RCRA facility from which hazardous constituents might migrate, irrespective of whether the unit was intended for the management of solid and/or hazardous waste.

All treatment units, storage tanks (except for the gasoline storage tanks) waste storage areas and associated pipings are located above ground. 38 units have been identified as SWMUs with 2 areas of concern, although the exact number is unknown. They are listed below in Table 1 and described individually on the following pages. Unit descriptions include: startup/closure dates; wastes managed; release controls; history of releases; and conclusions regarding potential for soil/groundwater, surface water, air and subsurface gas releases. SWMUs locations are shown in Appendix A.

TABLE 1 SUMMARY OF SWMUs

Unit 3.1 Earthen Disposal Pit
Unit 3.2 Acid Collection and Neutralization Tank
Unit 3.3 Battery Storage Area
Unit 3.4 Effluent Treatment Area
Unit 3.5 Wastewater Treatment Sludge Collection System
Unit 3.6 Earthen Acid Dump Pit
Unit 3.7 Slag Storage Pile
Unit 3.8 Crushed Battery Storage Area
Unit 3.9 Rubber Chip Storage Area
Unit 3.10 Old Battery Separation Building
Unit 3.11 Old Mixed Metals Extrusion Building
Unit 3.12 Zinc Alloy Operations Area
Unit 3.13 Metal Warehouse
Unit 3.14 Smelting Pots
Unit 3.15 Lead Oxide Building and Warehouse
Unit 3.16 Main Smelting Building
Unit 3.17 Blast Furnace Flue Bins
Unit 3.18 Main Smelting Building Baghouses
Unit 3.19 Crushed Battery Storage and Crushed Case Elevator
Unit 3.20 Radiation Lab and North Radiation Yard
Unit 3.21 Acid Tanks
Unit 3.22 Sumps
Unit 3.23 Mud and Dross Bins
Unit 3.24 Rainwater Retention Pond

contd. TABLE 1 SUMMARY OF SWMUs

Unit 3.25 Truck Wash Pit
Unit 3.26 Truck Dumper
Unit 3.27 Battery Hopper and Oscillating Conveyor
Unit 3.28 Polypropylene Loading Dock
Unit 3.29 Crushed Drum Storage Piles
Unit 3.30 Battery Storage Areas
Unit 3.31 Reverberatory Furnace Feedstock Room
Unit 3.32 Acid Tank and Battery Dump Bin Sump
Unit 3.33 Hammer Mill Conical Collector
Unit 3.34 Muds Holding Tanks
Unit 3.35 Baghouse Dust Slurry Sumps
Unit 3.36 Reverberatory and Soft Lead Baghouses
Unit 3.37 Blast Furnace Feedstock Room
Unit 3.38 Special Alloy Kettles and Lead Casting Machinery

AREAS OF CONCERN

Unit 3.39 Underground Fuel Tanks
Unit 3.40 Solid Soda Ash Product Storage Tanks

3.1 Earthen Disposal Pit

3.1.1 Information Summary:

Unit Description:

This unit is located in the southwest section of the west yard. The pit contained blast furnace slag from secondary lead smelting and dross from aluminum and zinc operations.

Date of Startup:

Unknown but possibly as early as 1922. The use of the pit was discontinued in 1973 as a result of the pit being completely filled.

Date of closure:

The unit has not gone through RCRA closure but it is not presently being utilized.

Waste Managed:

This unit was used to dispose of blast furnace slag and dross from aluminum and zinc operations.

Release Controls:

No known controls have been provided for the pit.

History of Releases:

There is no file record of releases from the unit.

3.1.2 Conclusions:

Soil/Groundwater Release Potential:

There is a high potential for past and/or present releases to the soil and/or groundwater due to the lack of containment for this unit.

Surface Water Release Potential:

There is a medium potential of past or on-going releases to surface water.

Air Release Potential:

There is a low potential of on-going releases to air since the pit has been covered over but it is possible that past releases may have occurred.

Subsurface Gas Release Potential:

This unit does fall under one of the following areas of concern specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. The potential for release is considered low due to the nature of the wastes placed in the pit/landfill.

3.2 Acid Collection and Neutralization Tank

3.2.1 Information Summary:

Unit Description:

This unit is located on the northwest corner of the old Morris P. Kirk battery separation building. This area is located to the west of the cooling tower.

Date of Startup:

Unknown

Date of closure:

The unit was taken out of service and removed in 1955.

Waste Managed:

This unit was composed of a 5000 gallon tank and was used to collect sulfuric acid from spent-lead storage batteries where the acid was neutralized using ammonia.

Release Controls:

Unknown

History of Releases:

There is no file record of releases from the unit.

3.2.2 Conclusions:

Soil/Groundwater Release Potential:

There is a medium potential for past releases to the soil and/or groundwater due to the unknown nature of the containment system for this unit.

Surface Water Release Potential:

There is a medium potential of past releases to surface water because of the unknown nature of the containment for the tank and its contents.

Air Release Potential:

There is a medium potential of past releases to air since it is not known whether the tank was open to the air.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern specified in the EPA's RCRA Facility Assessment Guidance: An active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.3 Battery Storage Area

3.3.1 Information Summary:

Unit Description:

This unit is located in various areas of the west yard. As much as a acre of the west yard may be used for battery storage.

Date of Startup:

1922

Date of closure:

This unit is used to this day for the storage of batteries that can not be accommodated in the battery receiving/storage buildings.

Waste Managed:

This unit is used for the storage of batteries prior to processing. Spent lead acid batteries contain sulfuric acid, lead, antimony, and small amounts of other metals.

Release Controls:

No known controls were provided for this unit.

History of Releases:

Common and frequent spills from spent and leaking lead-acid storage batteries occurred throughout the life of the unit. The batteries were brought onto site and placed on pallets with acid spills frequently discharged onto the bare soil. One distinct spill during the 1960's stoodout in the recollections of long-time employees. Most of the spills involved sulfuric acid from spent lead-acid batteries.

3.3.2 Conclusions:

Soil/Groundwater Release Potential:

There is a high potential for past or present releases to the soil and/or groundwater due to the lack of a containment system for this unit.

Surface Water Release Potential:

There is a medium to high potential of past or on-going releases to surface water because of the lack of a secondary containment.

Air Release Potential:

There is a medium to high potential of past or on-going releases to air since this area has been exposed to the elements.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.4 Effluent Treatment Area

3.4.1 Information Summary:

Unit Description:

This area is located north of the main battery receiving building. The effluent treatment area contains a 5800 gallon iron solution tank, a 60,900 gallon surge tank, a 14,100 gallon reaction tank, a 1480 gallon flocculation tank, a 7800 gallon clarifying tank, a 3000 gallon sand filter feed tank and a 5430 gallon sludge tank.

Date of Startup:

1987

Date of closure:

This unit is still active.

Waste Managed:

This is a wastewater treatment system which processes wastewater containing lead, antimony and other metals prior to discharging into the sanitary sewer.

Wastewater Release Controls:

The design volume of the unit is such that it will drain into the rainwater retention pond in case of unplanned releases of wastewater.

History of Releases:

There is no file record of any release from this area.

3.4.2 Conclusions:

Soil/groundwater Release Potential:

There is a low potential of past or on-going releases to soil and/or groundwater because of the design and construction of the unit.

Surface Water Release Potential:

There is a medium to high potential of past or on-going releases to surface water because of the lack of a secondary containment.

Air Release Potential:

There is a medium to high potential of past or on-going releases to air since this area has been exposed to the elements.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern's specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.5 Wastewater Treatment Sludge Collection System

3.5.1 Information Summary:

Unit Description:

Wastewater treatment sludge collection occurs in the filter press located in the effluent treatment area.

Date of Startup:

1987

Date of closure:

This unit is still in operation.

Waste Managed:

Filter cake from the wastewater treatment unit is put back into the furnace. The filter cake contains lead and other metals which are reclaimed in the furnace.

Release Controls:

There are no release controls for this unit.

History of Releases:

There was no file record for releases from this unit.

3.5.2 Conclusions:

Soil/Groundwater Release Potential:

There is a medium potential for release to soil/groundwater.

Surface Water Release Potential:

There is a medium potential for release to surface water.

Air Release Potential:

There is a medium potential for release to air.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.6 Earthen Acid Dump Pit

3.6.1 Information Summary:

Unit Description:

This pit was located near the middle of the property at the western fence line.

Date of Startup:

The installation date is not known.

Date of closure:

This unit is not presently being used but little is known as to the operation of this pit.

Waste Managed:

Spent battery acid and other unidentified wastes.

Release Controls:

Very little is known about the design and operation of the pit. There were no known release controls.

History of Releases:

There were ongoing releases throughout the life of the unit. A sampling of the groundwater was done in 1987 that shows that this pit was one of the prime contributors to acid, lead and other metal contamination of the groundwater.

3.6.2 Conclusions:

Soil/Groundwater Release Potential:

There is a high potential of past/present releases of hazardous waste to soil and groundwater.

Surface Water Release Potential:

There is a high potential of past/present releases to surface water.

Air Release Potential:

There is a high potential of past/present releases to the air.

Subsurface Gas Release Potential:

This unit does fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered medium to high.

3.7 Slag Storage Pile

3.7.1 Information Summary:

Unit Description:

This pile was located just south of the west yard warehouse.

Date of Startup:

1973

Date of closure:

1982, although some slag is still stored onsite.

Waste Managed:

The wastes managed in this unit include spent blast furnace slag with unreclaimed lead, antimony and other metals or impurities.

Release Controls:

No known release controls.

History of Releases:

There is no file record of any releases from this unit.

3.7.2 Conclusions:

Soil/Groundwater Release Potential:

There is a medium to high potential of past or on-going releases to the soil and/or groundwater because of the lack of containment.

Surface Water Release Potential:

There is a medium to high potential of past or on-going releases to the surface water because of the lack of containment.

Air Release Potential:

There is a medium to high potential of past or on-going releases to the air since the pile was exposed to the air.

Subsurface Gas Release Potential:

This unit does fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered medium.

3.8 Crushed Battery Storage Area

3.8.1 Information Summary:

Unit Description:

This area was sited on the north side of the water softening building.

Date of Startup:

The startup date of this unit is unknown. Smelting operations began on this site in 1922 and it is possible this area has been used for crushed battery storage since that time.

Date of closure:

This area was not used for crushed battery storage past 1982. There is no file record of any assessment or remediation activity at the site. There is no file record of the date the unit was removed.

Waste Managed:

This area stored crushed auto batteries which contained lead and other metals.

Release Controls:

There is no information available.

History of Releases:

There is no file record of releases from this unit.

3.8.2 Conclusions:

Soil/Groundwater Release Potential:

There is a medium potential for release for soil/groundwater.

Surface Water Release Potential:

There is a medium potential for release to surface water.

Air Release Potential:

There is a medium potential for release to air.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.9 Hard Rubber Chip Storage Area

3.9.1 Information Summary:

Unit Description:

This unit is/was sited on the east side of the main battery receiving building as well as along the western boundary fenceline and under the main battery receiving storage building.

Date of Startup:

The date of installation is unknown.

Date of closure:

This unit may be reduced in size due to the fact that the rubber chip is now put back in the furnace for use as a reducing agent. According to Ken Clark, Environmental Manager at GNB "there will always be a rubber chip pile" due to the nature of the business.

Waste Managed:

This unit contains rubber chip from the battery casing. The rubber chip contains lead and other metals.

Release Controls:

There are no release controls other than the leachate is supposed to run off into the drain for treatment in the wastewater treatment unit.

History of Releases:

There is no file record of releases from this unit.

3.9.2 Conclusions:

Soil/Groundwater Release Potential:

There is a medium to high potential for release to soil and groundwater due to the fact that there is no containment.

Surface Water Release Potential:

There is a medium to high potential for releases to surface water due to the lack of containment for the pile.

Air Release Potential:

There is a medium to high potential for releases to the air due to the fact that the pile is exposed to the elements.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.10 Old Battery Separation Building

3.10.1 Information Summary:

Unit Description:

This unit was sited at the location of the current plant's cooling tower.

Date of Startup:

The date of installation is unknown.

Date of closure:

This unit was discontinued with the completion of the new facility in 1982.

Waste Managed:

This unit contained spent acid and soluble lead from lead-acid storage batteries.

Release Controls:

There is no information available.

History of Releases:

There have been ongoing releases of sulfuric acid and possible dissolved metals throughout the life of the unit. The groundwater samples taken in 1987 shows that this unit contributed to acid and lead contamination of the groundwater. Any spills of battery acid were washed down with water with the runoff collecting in depressions on the concrete floor and allowed to evaporate.

3.10.2 Conclusions:

Soil/Groundwater Release Potential:

There is a high potential of releases to the groundwater and soil due to the fact that there have been numerous releases of sulfuric acid and dissolved metals.

Surface Water Release Potential:

There is a medium potential of release to surface water due to the fact that an inlet channel runs through the middle of the facility and little or no attempts were made to control the runoff.

Air Release Potential:

There is a high potential of releases to the air due to the fact that much of the leachate was allowed to evaporate into the air.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.11 Old Mixed Metals Extrusion Building

3.11.1 Information Summary:

Unit Description:

This unit was sited to the west of the engineering building. The building was approximately 10,000 square feet in size.

Date of Startup:

The date of installation is unknown.

Date of closure:

This unit was terminated in 1977 or 1978.

Waste Managed:

This unit contained spent trichloroethane (TCE) used as a cooling medium in the extrusion process. The TCE was stored in 20 pound containers at the scrap aluminum storage building, the aluminum scrap shed, and in the open on bare ground just to the south of the aluminum scrap shed. When needed TCE was taken from the storage area and poured into an open storage vat, which fed into the extrusion process. It is unknown what happened to excess TCE after the extrusion process.

Release Controls:

There is no information available.

History of Releases:

Ongoing releases occurred throughout the life of the unit. TCE concentrations in the groundwater sample at MW-11 were found to be at 2300 ug/l as opposed to drinking water standards of 5 ug/l. These findings support the conclusion that this unit contributed to groundwater contamination in this area.

3.11.2 Conclusions:

Soil/Groundwater Release Potential:

There is a high potential of releases to the soil and/or groundwater due to the fact that little or nothing was done to control the numerous releases of TCE to the environment.

Surface Water Release Potential:

There is a medium to high potential that releases to surface water occurred due to the lack of runoff control.

Air Release Potential:

There is a high potential that release to the air occurred due to the TCE runoff being allowed to evaporate.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.12 Zinc Alloy Operations Area

3.12.1 Information Summary:

Unit Description:

This unit was sited in the area where the rainwater retention pond is presently located.

Date of Startup:

The date of installation is unknown.

Date of closure:

This unit may have been removed in 1974 when the zinc alloy operations ended but it is possible it was removed as late as 1981.

Waste Managed:

This unit contained zinc compounds and alloys which may include zinc chloride.

Release Controls:

There is no information available.

History of Releases:

Zinc concentrations in the groundwater at groundwater monitoring well MW-5 (located near the unit) show zinc levels of 150 mg/l as opposed to drinking water standards at 5 mg/l. These findings indicate this unit may have contributed to groundwater contamination.

3.12.2 Conclusions:

Soil/Groundwater Release Potential:

There is a high potential for release to soil/groundwater.

Surface Water Release Potential:

There is a medium potential for release to surface water.

Air Release Potential:

There is a medium potential for release to air.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.13 Metal Warehouse

3.13.1 Information Summary:

Unit Description:

The parameters of this unit must be established.

Date of Startup:

Unknown.

Date of closure:

Unknown.

Waste Managed:

Unknown.

Release Controls:

Unknown.

History of Releases:

3.13.2 Conclusions:

Soil/Groundwater Release Potential:

No conclusions may be drawn until the parameters of this unit are established.

Surface Water Release Potential:

No conclusions may be drawn until the parameters of this unit are established.

Air Release Potential:

No conclusions may be drawn until the parameters of this unit are established.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or

closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.14 Smelting Pots

3.14.1 Information Summary:

Unit Description:

The 60 ton lead pots were placed on bare soil near the central yard to the north of the old Dross & Soft Lead Plant Office.

Date of Startup:

Unknown but possibly as early as 1922.

Date of closure:

Smelting pots are still being used today.

Waste Managed:

Lead and other metals.

Release Controls:

After the early 1950's a stainless steel sump was installed to act as a release control.

History of Releases:

Spills have been numerous and frequent.

3.14.2 Conclusions:

Soil/Groundwater Release Potential:

Spills were ongoing and frequent with a spill of molten lead in the 1950's resulting in a cleanup of lead contaminated soil to a depth of 35 feet.

Surface Water Release Potential:

No conclusions can be made until the parameters and the nature of the releases can be established.

Air Release Potential:

There is a high potential of releases to the air due to the spillage that occurred and the splattering of lead when water was inadvertently added to the pots.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.15 Lead Oxide Building and Warehouse

3.15.1 Information Summary:

Unit Description:

This unit was composed of two buildings on the southeast corner of the facility. This unit was used for the production of lead oxide powder.

Date of Startup:

Pre 1950

Date of closure:

May 1983

Waste Managed:

Lead

Release Controls:

Unknown

History of Releases:

On September 5, 1990 the walls of the lead oxide building were washed down causing an emergency response from the fire department. Other releases are strongly suspected.

3.15.2

Conclusions:

Soil/Groundwater Release Potential:

The potential for release to the soil/groundwater is high due to the powdered state of the lead.

Surface Water Release Potential:

The potential for release to the surface water is high due to the close proximity to the gutters on the west side of South Indiana Avenue.

Air Release Potential:

The potential for release is high due to the powdered state of the lead.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.16 Main Smelting Building

3.16.1 Information Summary:

Unit Description:

This unit consisted of two blast furnaces and one reverberatory furnace and was located near the center of the east yard. The furnaces were used for the smelting and production of lead.

Date of Startup:

1922.

Date of closure:

1982.

Waste Managed:

Lead, antimony and other metal alloys.

Release Controls:

Unknown.

History of Releases:

Unknown.

3.16.2 Conclusions:

Soil/Groundwater Release Potential:

There is a medium to high potential that there were release to soil/groundwater.

Surface Water Release Potential:

There is a medium to high potential that there were releases to surface water.

Air Release Potential:

There is a medium to high potential that there were release to the air.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.17 Blast Furnace Flue Bins

3.17.1 Information Summary:

Unit Description:

This unit was located to the north of the main smelting building and was used for the storage of flue dusts and residues taken from the main smelting furnace's baghouse and smokestack. The flue bins contained material with an approximate lead content of over fifty per cent.

Date of Startup:

1922

Date of closure:

1982

Waste Managed:

Flue dusts and residues with lead contents of over fifty per cent. Antimony and other metals may have also been managed at this unit.

Release Controls:

Unknown.

History of Releases:

Unknown.

3.17.2 Conclusions:

Soil/Groundwater Release Potential:

The potential of release to the soil/groundwater is high due to the high concentrations of lead managed.

Surface Water Release Potential:

The potential of release to the surface water is medium to high due to the nature of the waste managed that may have included high concentrations of lead powder.

Air Release Potential:

The potential of release to the air is high due to the nature of the waste managed.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.18 Main Smelting Building Baghouses

3.18.1 Information Summary:

Unit Description:

This unit consisted of three baghouses that handled the airborne discharges from the two blast and one reverberatory furnaces. Any airborne discharges from these furnaces were to be retained at the facility by cooling the airborne particulates and having the residue get trapped in the baghouses. Cooling cyclones, and a fume cooler were used in conjunction with these baghouses.

Date of Startup:

Unknown but possibly as early as 1922.

Date of closure:

1982

Waste Managed:

Flue dusts which contained over fifty per cent lead.

Release Controls:

Unknown

History of Releases:

Unknown

3.18.2 Conclusions:

Soil/Groundwater Release Potential:

The potential of release to the soil/groundwater is medium to high due to the management practices used during the life of the unit.

Surface Water Release Potential:

The potential of release to the surface water is considered medium to high due to the powdered state of the flue dust and the lack of environmental controls employed during the life of the unit.

Air Release Potential:

The potential for release is considered high due to the lead bearing flue dusts that the unit managed.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.19 Crushed Battery Storage and Crushed Case Elevator

3.19.1 Information Summary:

Unit Description:

This unit was composed of the crushed case battery storage area, the battery separation building and the crushed case elevator. This unit was located to the north of the main smelting unit baghouse. According to Ken Clark, Environmental Manager at GNB "Prior to 1982 the smelter feedstock was primarily made up of grid metal made up of broken batteries." The batteries that did arrive at the facility intact were loaded onto a conveyor belt where machines would cut off the top of the battery casing and dump out the grid. The drained acid was collected in a 5000 gallon lead-lined tank where neutralization was carried out using ammonia. The casings from the batteries were then crushed and stored in the crushed battery storage area. These buildings were used for the separation and storage of the crushed batteries prior to processing in the smelter. The grids from the batteries, which contained lead oxide were routed to the main smelting building. In reclaiming the lead, chemicals were used in a batch fashion (caustic flakes, sulfur, and niter). The chemicals were carried physically to the smelting pots and mixed in. Spills that occurred were hosed down with water, allowed to run off and allowed to soak into the floor and/or evaporate.

Date of Startup:

Possibly as early as 1922.

Date of closure:

1982

Waste Managed:

Crushed batteries with sulfuric acid, high lead and other metals.

Release Controls:

Unknown.

History of Releases:

Ongoing releases occurred frequently throughout the life of the unit.

3.19.2 Conclusions:

Soil/Groundwater Release Potential:

Due to the lack of environmental controls employed at this facility the potential for release to the soil/groundwater is considered high.

Surface Water Release Potential:

The potential for release to the surface water is medium to high.

Air Release Potential:

The potential for release to the air is medium to high.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.20 Radiation Lab and North Radiation Yard

3.20.1 Information Summary:

Unit Description:

This unit was composed of a laboratory and process yard located to the north of the acid tank and the battery separation building. This unit used gamma radiation for the construction of lead shielding/containers.

Date of Startup:

Unknown.

Date of closure:

Unknown.

Waste Managed:

Radioactive materials.

Release Controls:

Unknown.

History of Releases:

The secretary at the front desk said she has been at GNB for 30 years and remembers feeling the "blast" from the radiation production area and getting "silver spots all over her dress".

3.20.2 Conclusions:

Soil/groundwater Release Potential:

The potential for release to the soil/groundwater is medium to high due to the management practices employed at the facility.

Surface Water Release Potential:

The potential for release to surface water is medium.

Air Release Potential:

The potential for release to the air is high.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.21 Acid Tanks

3.21.1 Information Summary:

Unit Description:

This unit was located in the northwest corner of the battery separation building and stored the acid as it was neutralized with ammonia.

Date of Startup:

Possibly as early as 1922.

Date of closure:

1977.

Waste Managed:

Sulfuric acid.

Release Controls:

Unknown.

History of Releases:

Probable ongoing releases during the life of the unit.

3.21.2 Conclusions:

Soil/groundwater Release Potential:

There is a medium to high potential of release to the soil/groundwater.

Surface Water Release Potential:

There is a medium to high potential of releases to the surface water due to the proximity of the unit to the flood control channel.

Air Release Potential:

There is a medium to high potential of releases to the air from this unit.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.22 Sumps

3.22.1 Information Summary:

Unit Description:

There were at least two sumps located in the west yard. The first one was located to the southeast of the mud & dross bins and the second at the northeast of the aluminum smelting building.

Date of Startup:

Unknown.

Date of Closure:

Unknown.

Waste Managed:

Runoff from rain, acid spills etc.

Release Controls:

Unknown.

History of Releases:

Unknown.

3.22.2 Conclusions:

Soil/Groundwater Release Potential:

There is medium to high potential of release to the soil/groundwater.

Surface Water Release Potential:

There is a medium potential of release to surface water.

Air Release Potential:

There is a medium potential of release to the air.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.23 Mud and Dross Bins

3.23.1 Information Summary:

Unit Description:

This unit was located next to the western boundary fence and to the southwest of the blue lead warehouse.

Date of Startup:

Unknown.

Date of closure:

Unknown.

Waste Managed:

Mud (acid contaminated sludge that was neutralized with ammonia). Dross (the impurities that are skimmed off the furnace). Both mud and dross have high lead contents and other metals such as antimony and tin.

Release Controls:

Unknown.

History of Releases:

Unknown.

3.23.2 Conclusions:

Soil/Groundwater Release Potential:

There is a high potential of release to the soil/groundwater.

Surface Water Release Potential:

There is a medium potential of release to the surface water.

Air Release Potential:

There is a medium potential of release to the air.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.24 Rainwater Retention Pond

3.24.1 Information Summary:

Unit Description:

The rainwater retention pond is located on the southern boundary fence at the site of the old zinc alloy production area.

Date of Startup:

1984

Date of closure:

Presently in use.

Waste Managed:

Water runoff from the facility. The Department of Health Services sampled the pond in 1989 and found the water to be containing above the hazardous waste level of lead and sulfuric acid. Other metals such as antimony and tin may also be present.

Release Controls:

Unknown.

History of Releases:

The Regional Water Quality Control Board has documented a potential release in 1985 and at other times during the operation of this unit. In August 1985 GNB drained water from the pond into the flood control channel and as a result some of the water seeped under the pond's liner and damaged the liner and may have damaged the seepage collection system.

3.24.2 Conclusions:

Soil/Groundwater Release Potential:

There is a high potential that there has been releases to the soil/groundwater.

Surface Water Release Potential:

There is a high potential of release to surface water.

Air Release Potential:

There is a medium to high release potential to the air.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.25 Truck Wash Pit

3.25.1 Information Summary:

Unit Description:

This unit is located next to the garage located on the south side of the facility and to the west of the flood control channel. This unit was used for the washing of the inplant vehicles and the offsite tractor trailer rigs. These vehicles were washed off to remove any lead or other contaminants.

Date of Startup:

Unknown.

Date of closure:

Unknown.

Waste Managed:

Lead and other metals.

Release Controls:

Unknown.

History of Releases:

Unknown.

3.25.2 Conclusions:

Soil/Groundwater Release Potential:

There is a medium to high potential that there has been release to the soil/groundwater.

Surface Water Release Potential:

There is a medium potential of release to surface water.

Air Release Potential:

There is a medium to high potential of release to the air.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.26 Truck Dumper

3.26.1 Information Summary:

Unit Description:

This unit is located near the north end of the facility to the south of the truck scale house. When batteries are received in a loose condition (not on pallets) the trucks back up into the truck dumper where the trucks can be raised to 60 degree angle to dump the batteries into the battery hopper.

Date of Startup:

1982.

Date of closure:

Presently being used.

Waste Managed:

Lead acid batteries (lead and sulfuric acid).

Release Controls:

Unknown.

History of Releases:

Unknown.

3.26.2 Conclusions:

Soil/Groundwater Release Potential:

There is a medium potential of release to the soil/groundwater.

Surface Water Release Potential:

There is a medium potential of release to surface water.

Air Release Potential:

There is a medium potential of release to the air.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.27 Battery Hopper and Oscillating Conveyor

3.27.1 Information Summary:

Unit Description:

This unit is located on the west side of the reverberatory raw material storage building. The batteries are put into the hopper and the oscillating conveyor takes the batteries to the hammermill where the batteries are broken up into component parts.

Date of Startup:

1982.

Date of closure:

Presently being used.

Waste Managed:

Lead acid batteries.

Release Controls:

Stainless steel sumps underlie the battery hopper, oscillating conveyor and battery decasing machinery. The sumps direct the collected material to the neutralization tanks (Mud tanks).

History of Releases:

Unknown.

3.27.2 Conclusions:

Soil/Groundwater Release Potential:

There is a medium potential of release to the soil/groundwater.

Surface Water Release Potential:

There is a medium potential of release to the surface water.

Air Release Potential:

There is a medium potential of release to the air.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.28 Polypropylene Loading Dock

3.28.1 Information Summary:

Unit Description:

This unit is located on the northwest corner of the reverberatory furnace feedstock building. The loading dock is the area where wet polypropylene is loaded into the back of tractor trailer rigs. The trucks are allowed to drain the leachate (that contains hazardous waste levels of lead) on the side of the reverberatory furnace feedstock building and in the west yard. The partially drained off loads of polypropylene are then driven to an unpermitted facility (KW Plastics located in Bakersfield California) for the reclamation of polypropylene.

Date of Startup:

1982.

Date of closure:

Presently being used.

Waste Managed:

Lead contaminated polypropylene.

Release Controls:

None.

History of Releases:

The polypropylene leachate has been sampled in the west yard and twice on Interstate 5 on the way to Bakersfield and has come up with hazardous levels of lead.

3.28.2 Conclusions:

Soil/Groundwater Release Potential:

The potential is high for releases to the soil/groundwater.

Surface Water Release Potential:

The potential is high for release to surface water.

Air Release Potential:

The potential is high for release to the air.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.29 Crushed Drum Storage Piles

3.29.1 Information Summary:

Unit Description:

This unit was composed of two piles of split feedstock drums located to the west of the blue lead warehouse and along the western boundary fence.

Date of Startup:

Unknown

Date of Closure:

The pile along the western fence, currently no longer in place, was still in place as of October 17, 1989 but the pile to the west of the blue lead warehouse was removed after the DHS enforcement inspection in July 1989. The drums that made up the pile were primarily made up of incoming feedstock lead dross drums that were split along the side to remove the dross, crushed and then fed into the furnace. Samples taken of powder in the piles have shown hazardous waste levels of lead and antimony. Additional contaminants may be found in these areas. During the VSI conducted on September 20, 1990 the piles were no longer in either location.

Waste Managed:

Feedstock drums with hazardous waste levels of lead, and antimony.

Release Controls:

None.

History of Releases:

Ongoing releases have occurred throughout the life of the unit.

3.29.2 Conclusions:

Soil/Groundwater Release Potential:

There is a high potential of release to the soil/groundwater.

Surface Water Release Potential:

There is a high potential of release to the surface water due to the friable nature of the contaminated powder and the relatively close proximity to the flood control channel.

Air Release Potential:

There is a high potential of release to the air due to the friable nature of the contaminated powder.

Subsurface Gas Release Potential:

This unit does fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Due to the nature of the waste stored on the land the potential is low.

3.30 Battery Storage Areas

3.30.1 Information Summary:

Unit Description:

There are presently four main battery storage areas located in the the southeast section of the facility to the south of the reverberatory furnace feedstock building. Additional areas of the west yard are used for the open storage of spent batteries. The spent batteries which are the primary feedstock for the facility's two furnaces are stored in these areas prior to processing. The battery storage areas also contain lead dross and the largest of the battery storage areas contains the spent hard rubber casing from the cracked batteries.

Date of Startup:

1982.

Date of closure:

Presently being used.

Waste Managed:

Spent batteries with hazardous levels of lead and sulfuric acid.

Release Controls:

Leachate from the batteries is supposed to drain into sumps for processing in the wastewater treatment unit. Other release controls are unknown.

History of Releases:

Unknown.

3.30.2 Conclusions:

Soil/Groundwater Release Potential:

There is a medium to high potential of release to the soil/groundwater.

Surface Water Release Potential:

There is a medium to high potential of release to the surface water due to the close proximity of the units to the flood control channel.

Air Release Potential:

There is a medium potential of release to the air.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.31 Reverberatory Furnace Feedstock Room

3.31.1 Information Summary:

Unit Description:

This unit is located in the north end of the facility and south of the present day truck scale house. The feedstock consists of battery grids, wastewater treatment filtercake and other lead bearing wastes.

Date of Startup:

1981 or 1982.

Date of closure:

Presently in use.

Waste Managed:

Lead bearing wastes including filtercake and battery grids.

Release Controls:

There are shallow trenches in the room that directs the runoff back to the wastewater treatment unit.

History of Releases:

Unknown.

3.31.2 Conclusions:

Soil/Groundwater Release Potential:

There is a medium to high potential of release to soil/groundwater.

Surface Water Release Potential:

There is a medium to low risk of release to surface water.

Air Release Potential:

There is a medium to low potential of release to the air.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.32 Acid Tank and Battery Dump Bin Sump

3.32.1 Information Summary:

Unit Description:

Waste acid is collected from the battery receiving area in this unit. This tank is 14 feet feet in diameter and 11 feet high with a capacity of 12,500 gallons. The tank is constructed of fiberglass reinforced polyester. From this tank waste acid is pumped into the muds holding tank system where neutralization of the acid takes place.

Date of Startup:

November 1982.

Date of closure:

Presently being used.

Waste Managed:

Waste acid.

Release Controls:

There are no release controls other than ditches to channel the runoff to the rainwater retention pond.

History of Releases:

Unknown.

3.32.2 Conclusions:

Soil/Groundwater Release Potential:

There is a medium potential of release to soil/groundwater.

Surface Water Release Potential:

There is a medium potential of release to surface water.

Air Release Potential:

There is a medium potential of release to air.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.33 Hammermill Conical Collector

3.33.1 Information Summary:

Unit Description:

This unit crushes whole spent lead acid batteries after receiving them from the battery receiving area. This crushing of the batteries is done for the recovery of lead. Waste acid is separated out at this time by a screening device called a hammermill. The waste acid is sent to the muds holding tanks for neutralization.

Date of Startup:

1982.

Date of closure:

Presently being used.

Waste Managed:

Waste acid and spent battery components.

Release Controls:

Unknown other than ditches to catch runoff from the hammermill and channel any release to the rainwater retention pond.

History of Releases:

Unknown.

3.33.2 Conclusions:

Soil/Groundwater Release Potential:

There is a medium potential of release to soil/groundwater.

Surface Water Release Potential:

There is a medium potential of release to surface water.

Air Release Potential:

There is a medium potential for release to the air

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.34 Muds Holding Tank

3.34.1 Information Summary:

Unit Description:

This unit is composed of three 41,000 gallon tanks. Tanks 2 and 3 receive waste acid from the hammermill conical collector. Tank 1 receives partially neutralized solutions from tanks 2 and 3. The muds holding tanks are used to treat the waste acid with soda ash. Each tank is 18 feet in diameter and 22 feet high.

Date of Startup:

November 1982.

Date of closure:

Presently in use.

Waste Managed:

Waste acid.

Release Controls:

Unknown other than ditches to lead any released material into the rainwater retention pond.

History of Releases:

Unknown.

3.34.2 Conclusions:

Soil/Groundwater Release Potential:

There is a medium potential of release to soil/groundwater.

Surface Water Release Potential:

There is a medium potential of release to surface water.

Air Release Potential:

There is a medium potential of release to air.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.35 Baghouse Dust Slurry Sumps

3.35.1 Information Summary:

Unit Description:

This unit consists of sumps located to the east of the waste acid containment tank. These sumps receive baghouse dust carried to them by screw conveyors. The dust slurry is pumped to the mud tanks.

Date of Startup:

1982.

Date of closure:

Presently used.

Waste Managed:

Lead contaminated baghouse dust.

Release Controls:

Unknown.

History of Releases:

Unknown.

3.35.2 Conclusions:

Soil/Groundwater Release Potential:

There is a medium to high potential of release to the soil/groundwater.

Surface Water Release Potential:

There is a medium potential of release to the surface water.

Air Release Potential:

There is a medium potential of release to the air.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.36 Reverberatory and Soft Lead Baghouses

3.36.1 Information Summary:

Unit Description:

This unit consists of two baghouses for the collection of reverberatory furnace air emissions, one for material storage, one for blast furnace emissions, one for soft lead and one for hard lead. These baghouses are located to the east of the reverberatory furnace feedstock building. These baghouses are used to trap air emissions for recycling and environmental control.

Date of Startup:

1982.

Date of closure:

Presently being used.

Waste Managed:

Air emission dusts.

Release Controls:

Unknown.

History of Releases:

The SCAQMD has had violations concerning the air emissions at GNB. In the period of approximately one year (1989-1990) there have been about 50 nuisance complaints from neighbors concerning the air emissions at the facility.

3.36.2 Conclusions:

Soil/Groundwater Release Potential:

There is a medium potential of release to the soil/groundwater.

Surface Water Release Potential:

There is a medium potential for release to the surface water.

Air Release Potential:

There is a medium to high potential of release to the air.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.37 Blast Furnace Feedstock Room

3.37.1 Information Summary:

Unit Description:

This unit is located at the south end of the furnace building and is used for the storage of feedstock for the blast furnace.

Date of Startup:

1982.

Date of closure:

Presently being used.

Waste Managed:

Lead bearing wastes and reverberatory furnace slags and other drosses.

Release Controls:

Unknown.

History of Releases:

Unknown but samples taken by DHS show high levels of lead and antimony.

3.37.2 Conclusions:

Soil/Groundwater Release Potential:

There is a medium to high potential for release to soil/groundwater.

Surface Water Release Potential:

There is a medium potential for release to surface water.

Air Release Potential:
There is a medium potential for release to the air.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or

closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.38 Special Alloy Kettles and Lead Casting Machinery

3.38.1 Information Summary:

Unit Description:

This unit is located in the furnace building to the east of the reverberatory furnace. The kettles are used for the smelting of lead.

Date of Startup:

1982.

Date of closure:

Presently being used.

Waste Managed:

Lead.

Release Controls:

Unknown.

History of Releases:

The South Coast Air Quality Management District monitors the release of Sulfur dioxide (SO_2) from the fuel used to fire the kettles and the possible lead fumes.

3.38.2 Conclusions:

Soil/Groundwater Release Potential:

There is a medium to high potential of release to the soil/groundwater.

Surface Water Release Potential:

There is a low to medium potential of release to surface water.

Air Release Potential:

There is a high potential of release to the air.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

AREAS OF CONCERN

3.39 Underground Fuel Tanks

3.39.1 Information Summary:

Unit Description:

There are two fuel tanks in use at GNB. There is a 10,000 gallon gasoline tank located near the truck maintenance shop and a 10,000 gallon diesel fuel tank located near the truck scales at the 26th Street entrance. An additional oil tank was located at GNB but according to Ken Clark of GNB, the tank has been filled with cement and closed in accordance with all applicable regulations.

Date of Startup:

Unknown.

Date of closure:

Two of the tanks are presently being used with the third closed at an unknown date.

Product Managed:

Gasoline and oil.

Release Controls:

Unknown.

History of Releases:

Unknown.

3.39.2 Soil/Groundwater Release Potential:

There is a medium potential for release to the soil/groundwater.

Surface Water Release Potential:

There is a medium to low potential for release to surface water.

Air Release Potential:

There is a low potential for release to air.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

3.40 Solid Soda Ash Product Tanks

3.40.1 Information Summary:

Unit Description:

There are two solid soda ash product tanks in use at GNB. The first 200 ton tank is located at the north side of the MUD storage tanks and the second 200 ton tank is located on the south side of the reverberatory furnace feedstock building. The soda ash is used in solid form to neutralize the battery acid in the MUD tanks.

Date of Startup:

According to Ken Clark of GNB it is unknown exactly when this unit was started up but it is assumed to be 1982.

Date of Closure:

Both tanks are presently in use.

Product Managed:

Soda Ash.

Release Controls:

Unknown.

History Releases:

There is no file record of releases from this unit but a spill of soda ash was noticed approximately one foot high and three feet long at the time of the VSI on September 20, 1990.

3.41.2 Conclusions:

Soil/Groundwater Release Potential:

There is a high potential for release to soil and groundwater due to the friable state of the powder.

Surface Water Potential:

There is a low to medium potential for release to the surface water.

Air Release:

There is a medium potential for release to the air.

Subsurface Gas Release Potential:

This unit does not fall under one of the following areas of concern as specified in the EPA's RCRA Facility Assessment Guidance: an active or closed landfill or a unit which has been closed as a landfill. Therefore, potential for release is considered low.

4.0 SUMMARY OF VISUAL SITE INSPECTION:

A RCRA Facility assessment (RFA) Visual Site Inspection (VSI) was conducted by DHS personnel to identify and evaluate solid waste management units (SWMUs) and other areas of concern at GNB, Incorporated in Vernon, California on September 20, 1990. The inspection started at approximately 10 A.M. with a meeting between Ken Clark of GNB and Mehdi Nobari, Ken Chiang, Tam Smalstig and David Rasmussen of DHS. David Rasmussen explained the purpose of the VSI to Ken Clark. After donning protective clothing a site tour commenced. Photographs were taken of various areas in the facility and appears in Appendix B. All SWMUs and process areas identified in the preliminary review file were inspected. An exit interview was held at the end of the site tour. The meeting and tour of the facility was completed in five and a half hours and the DHS representatives left GNB at approximately 3:30 P.M.

No new SWMUs were identified during the inspection but several problems were discovered or reconfirmed and are listed as follows:

1. The hard rubber chip previously shipped as hazardous waste to Chemwaste Management in Kettleman Hills, California is now being blended into the waste water treatment sludge filter cake and burned in the reverberatory furnace. This change in process is not part of their current permit.

2. Cracks in the floors or several of the units were found throughout the facility but particularly noted in the lead oxide building where powdered lead has been processed in the past.

3. The water in the Rainwater retention pond showed a dark coloration indicating possible lead contamination as previously noted and sampled in a DHS inspection on September 1, 1989.

4. The old engineering and laboratory building had open buckets of abandoned chemicals.

5. The sampling laboratory located in the westyard was in a very pool condition with possible lead bearing sweeping compound left on the floor.

6. White Powder described by Ken Clark of GNB as Soda ash was sitting uncontained on the ground under the northernmost soda ash products storage tank.

5.0 Conclusions:

GNB Incorporated is a treatment and storage facility for the reclamation of lead. The facility is located at 2700 South Indiana Avenue in Vernon, California and has been in operation at this location since 1922. Wastes accepted consist of spent lead-acid batteries, lead drosses and other lead bearing wastes. A total of 38 SWMUs and 2 areas of concern have been identified on-site.

Release potentials of these units to environmental media were evaluated and segregated into four categories based on potential for release: low potential, medium potential, high potential and documented releases. Release potential of these units are summarized in Table below.

SUMMARY OF POTENTIAL FOR RELEASES FROM SWMUs

Unit	Description	Soil/ Groundwater	Surface Water	Air	Subsurface Gas
3.1	Earthen Disposal Pit	high	medium	low	low
3.2	Acid Collection Neutralization tank	medium	medium	medium	low
3.3	Battery Storage Area	high	medium	medium	low
3.4	Effluent Treatment Area	low	low	medium	low
3.5	Wastewater Treatment Sludge Collection System	medium	medium	medium	medium
3.6	Earthen Acid Dump Pit	high	high	high	medium
3.7	Slag Storage Pile	medium	medium	medium	medium
3.8	Crushed Battery Storage Area	medium	medium	medium	low
3.9	Hard Rubber Chip Storage Area	high	medium	medium	low
3.10	Old Battery Separation Building	high	medium	high	low
3.11	Old Mixed Metals Extenion Building	high	high	high	low
3.12	Zinc Alloy Operations Area	high	medium	medium	low
3.13	Metal Warehouse	unknown	unknown	unknown	low
3.14	Smelting Pots	high	high	high	low
3.15	Lead Oxide Building & Warehouse	high	high	high	low
3.16	Main Smelting Building	high	high	high	low
3.17	Blast Furnace Flue Bins	high	high	high	low
3.18	Main Smelting Building Baghouses	medium	medium	high	low

3.19 Crushed Battery Storage and Crushed Case Elevator	high	high	high	low
3.20 Radiation Laboratory	high	medium	high	low
3.21 Acid Tanks	medium	medium	medium	low
3.22 Sumps	medium	medium	medium	low
3.23 Mud & Dross Bins	high	medium	medium	low
3.24 Rainwater Retention Pond	high	high	high	low
3.25 Truck Wash Pit	high	medium	medium	low
3.26 Truck Dumper	medium	medium	medium	low
3.27 Battery Hopper & Oscillating Conveyor	medium	medium	medium	low
3.28 Polypropylene Loading Dock	high	high	high	low
3.29 Crushed Drum Storage Piles	high	high	high	low
3.30 Battery Storage Areas	high	medium	medium	low
3.31 Reverberatory Furnace Feedback Room	medium	medium	medium	low
3.32 Acid Tank & Battery Dump Bin Sump	medium	medium	medium	low
3.33 Hammermill Conical Collector	medium	medium	medium	low
3.34 MUD Holding Tank	medium	medium	medium	low
3.35 Baghouse Dust Slurry Sumps	medium	medium	medium	low
3.36 Reverberatory & Soft Lead Baghouses	medium	medium	medium	low
3.37 Blast Furnace Feedstock Room	medium	medium	medium	low
3.38 Special Alloy Kettles & Lead Lasting Machinery	medium	medium	medium	low

AREAS OF CONCERN

3.39 Underground Fuel Tanks	medium	medium	medium	low
3.40 Solid Soda Ash Tanks	high	medium	medium	low

Eleven units have documented releases and are listed as follows:

1. Unit 3.3 Battery Storage Area
   Interviews conducted by Woodward Clyde Consultants in 1986 with GNB employees indicate that spills occurred frequently over a period of years. Employees indicated that no significant attempt was made to clean the spilled material but allowed it to enter the ground.

2. Unit 3.6 Earthen Acid Dump Pit
   Samples taken shows that this pit to be a major contributor of acid, lead and other metal contamination to the groundwater.

3. Unit 3.9 Hard Rubber Chip Wastepile

DHS has sampled the pile in 1989 and found hazardous levels of lead in the chip pile and the leachate.

4. Unit 3.10 Old Battery Separation Building
Samples taken in 1987 show that this unit contributed to lead and acid contamination to the groundwater.

5. Unit 3.11 Old Mixed Metals Extrusion Building
TCE concentrations in the groundwater at monitoring well MW-11 were found at 2300 mg/l as opposed to drinking water standards of 5 mg/l.

6. Unit 3.12 Zinc Alloy Operations Area
Zinc concentrations at monitoring well MW-5 have been found at 150 mg/l as opposed to drinking water standards of 5 mg/l.

7. Unit 3.14 Smelting Pots
According to Woodward Clyde Consultants frequent spills of molten lead occurred for some time, however a remediation was conducted in the 1950's to take care of one individual spill. The remediation involved the cleanup of soil up to a depth 35 feet below the ground level.

8. Unit 3.15 Lead Oxide Building
On September 5, 1990 the walls of the lead oxide building were washed down prior to painting causing an emergency response from the fire department due to the release of powdered lead.

9. Unit 3.24 Rainwater Retention Pond
The Regional Water Quality Control Board has documented a potential release in 1985 that may have resulted in the damage of the Pond liner.

10. Unit 3.28 Polypropylene Loading Dock
The polypropylene and the leachate has been sampled by the DHS in 1989 and has been shown to contain hazardous levels of lead.

11. Unit 3.29 Crushed Drum Storage Piles
In 1989 DHS has sampled the piles by the western fence and has found hazardous levels of lead and antimony.

ENFORCEMENT CONFIDENTIAL

6.0 SUGGESTIONS FOR FURTHER ACTIONS:

This facility has been in operation at this location since 1922. In the sixty eight years of operation tons of lead and other metals have been reclaimed at the site. Throughout this period spills have been common in many parts of the facility. Since most of the facility has been unpaved bare soil up until 1982 many of the spills have been released to the ground. The facility has been sampled by the Department of Health Services in 1987 and 1989 and hazardous waste levels of lead and antimony have been found in several areas. Past management practices at the facility included the disposal of slag and waste acid in open earthen pits. The local groundwater has also been found to be contaminated with zinc and TCE.

From the information gathered GNB and the previous owners of the facility may have contributed to the groundwater contamination in the Los Angeles Coastal Plain. Further investigation is needed to characterize the extent of the problem at the site. It is recommended that GNB prepare a workplan to identify and evaluate the environmental releases of hazardous wastes or constituents. The workplan should cover several areas: soil investigation, off-site contamination, air releases and groundwater investigation.

Sampling sites should consist of but not limited to areas that are suspected or known to be contaminated. These areas include past and present waste and product storage facilities, loading and unloading areas, product transfer areas, surface water drainage pathways, treatment units and the rainwater retention pond.

In addition, further actions are recommended at this time for the following areas:

1. Sampling and analysis should be conducted throughout the entire facility due to the various historical and current locations of SWMUs and the lack of environmental controls.

2. Cracks in the asphalt (noticed throughout the facility) should be repaired and sampled for possible contamination.

3. The former engineering and laboratory building should be inspected for possible contamination and cleaned up of any problem areas.

4. The rainwater retention pond should be inspected for possible leakage and the surrounding area (including the Los Angeles County flood control channel) should be sampled for possible contamination.

5. Sampling of the former location of the radiation laboratory should be conducted for contamination and possible remediation of contaminated area.

7.0 REFERENCES

1. GNB Inc. Part B Application dated November 04, 1988.

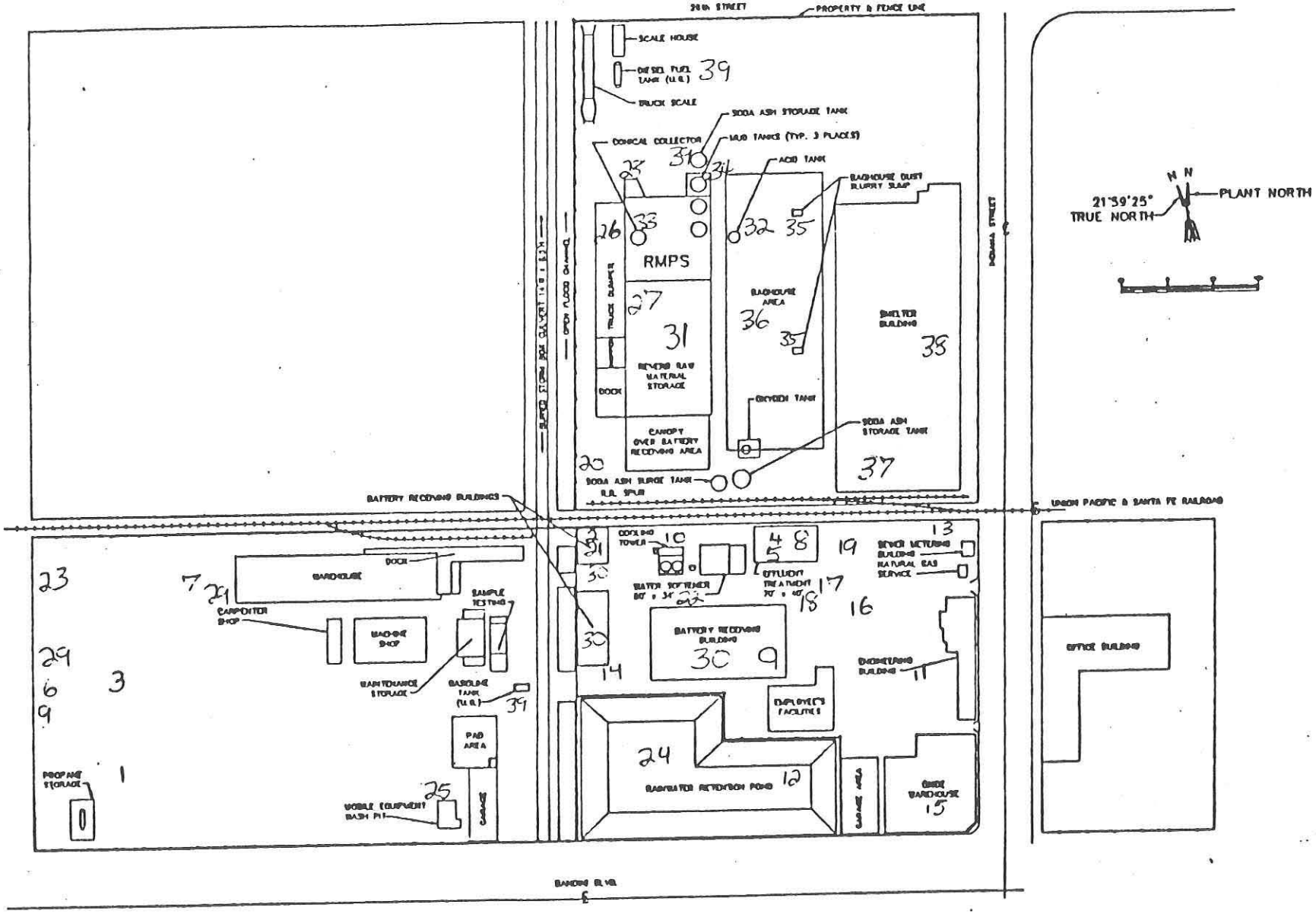
2. Phase-I Site Assessment review of Existing Data GNB Vernon Plant submitted June 09, 1986. - By Woodward Clyde Consultants.

3. Inspection report by David Rasmussen DHS dated December 15, 1989.

APPENDIX A

LOCATION OF SOLID WASTE MANAGEMENT UNITS

APPENDIX A



LAKE ENGINEERING, INCORPORATED 6000 LAKE FORREST DR. SUITE 350 ATLANTA, GEORGIA 30328	GNB, INCORPORATED VERNON, CALIFORNIA	LOCATION OF SOLID WASTE MANAGEMENT UNITS

APPENDIX B

PHOTOGRAPHS

Photo No. 1 Date August 23, 1989 Inspector D. Rasmussen

Description Waste pile of crushed drums located along the western boundary fence. Note leachate stains in foreground with Ken Clark to the right hand side of the picture.

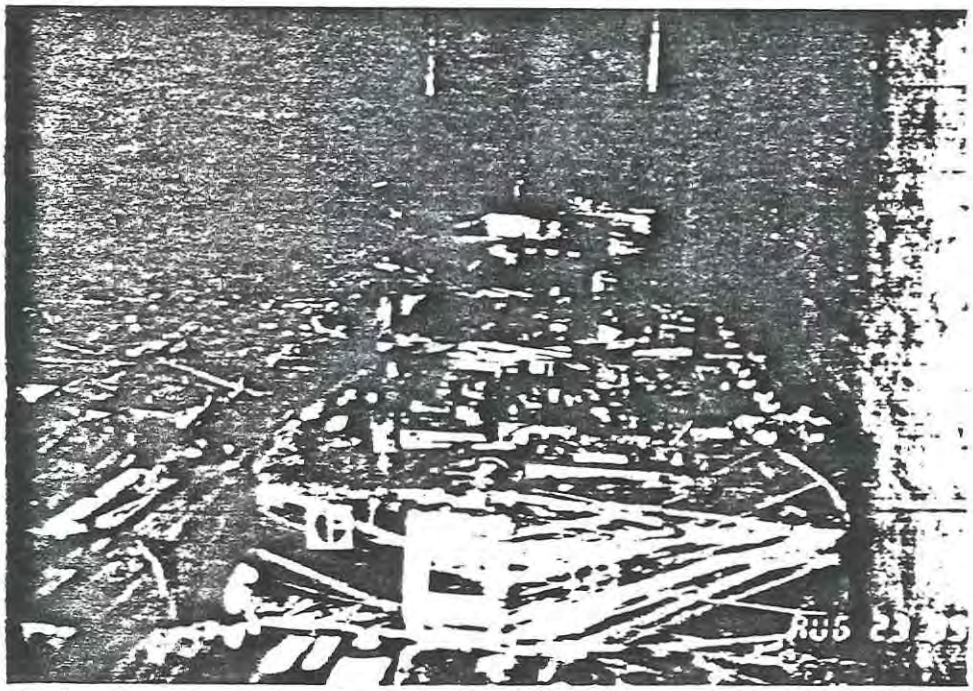


Photo No. 2 Date August 23, 1989 Inspector D. Rasmussen

Description Incoming battery feedstock located in a tractor trailer rig after being accepted through the scalehouse on the northside of the facility.

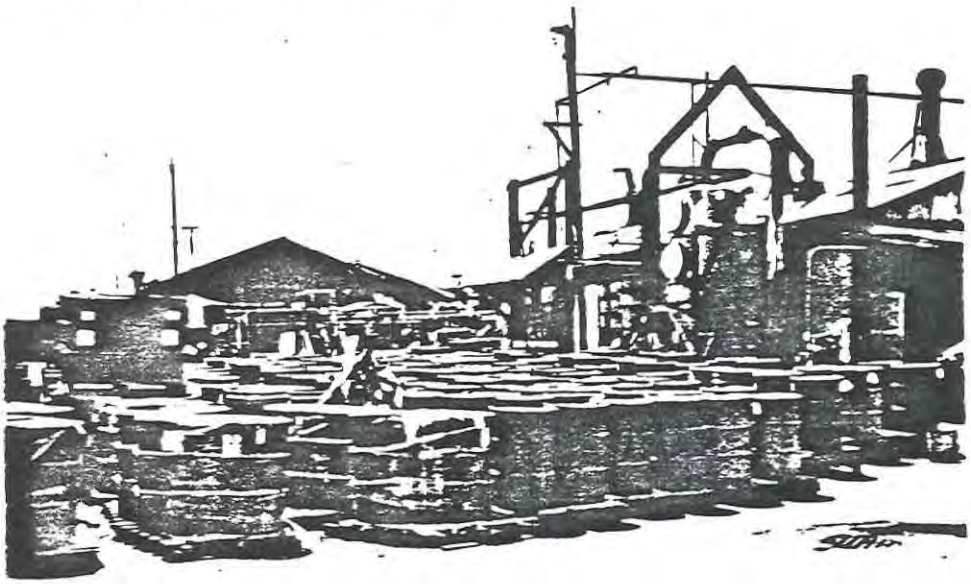


Photo No. 3 Date August 23, 1989 Inspector D. Rasmussen

Description Drums of lead bearing hazardous waste feedstock located to the north of the sample laboratory. Note hazardous waste labels on drums in the left hand side of the picture.

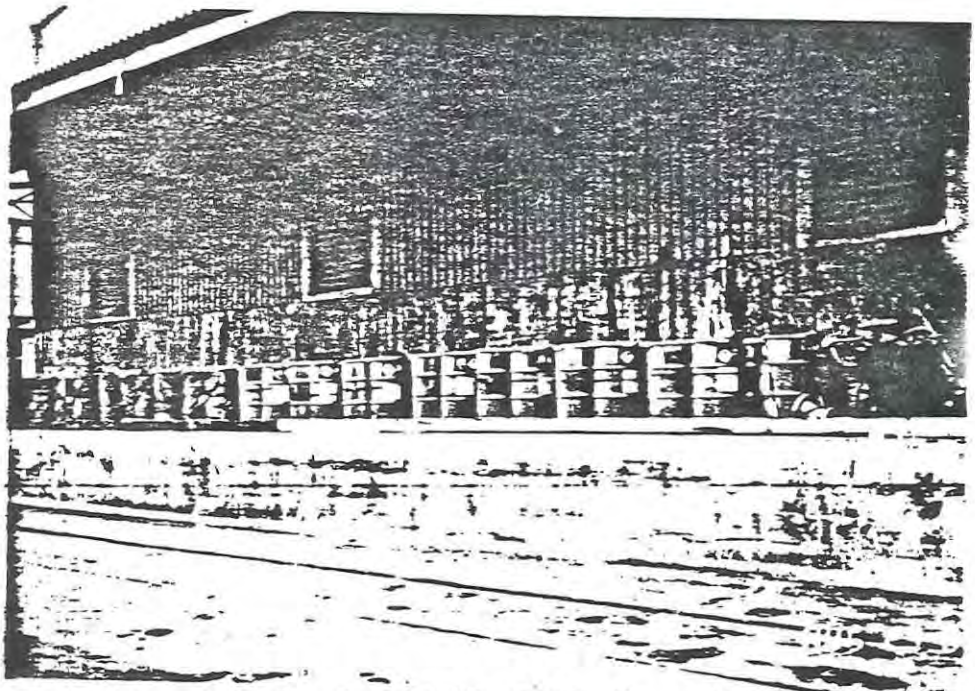


Photo No. 4 Date August 23, 1989 Inspector D. Rasmussen

Description Hazardous waste drums located on the loading dock at the south end of the furnace building.

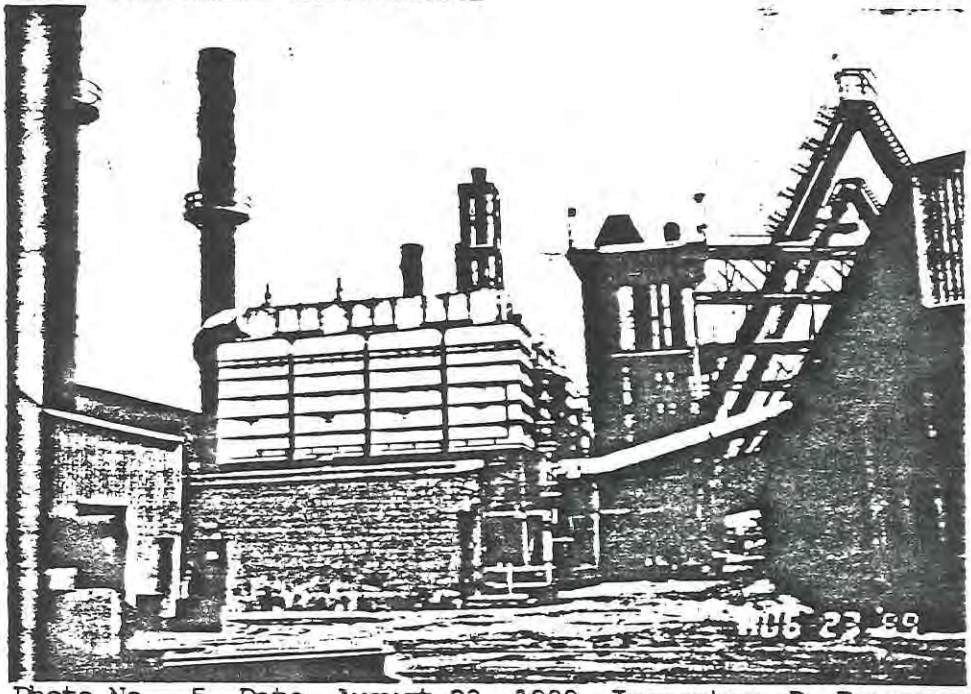


Photo No. 5 Date August 23, 1989 Inspector D. Rasmussen

Description North facing view of the baghouses and smokestacks. Note the furnace building on the right side of the picture.

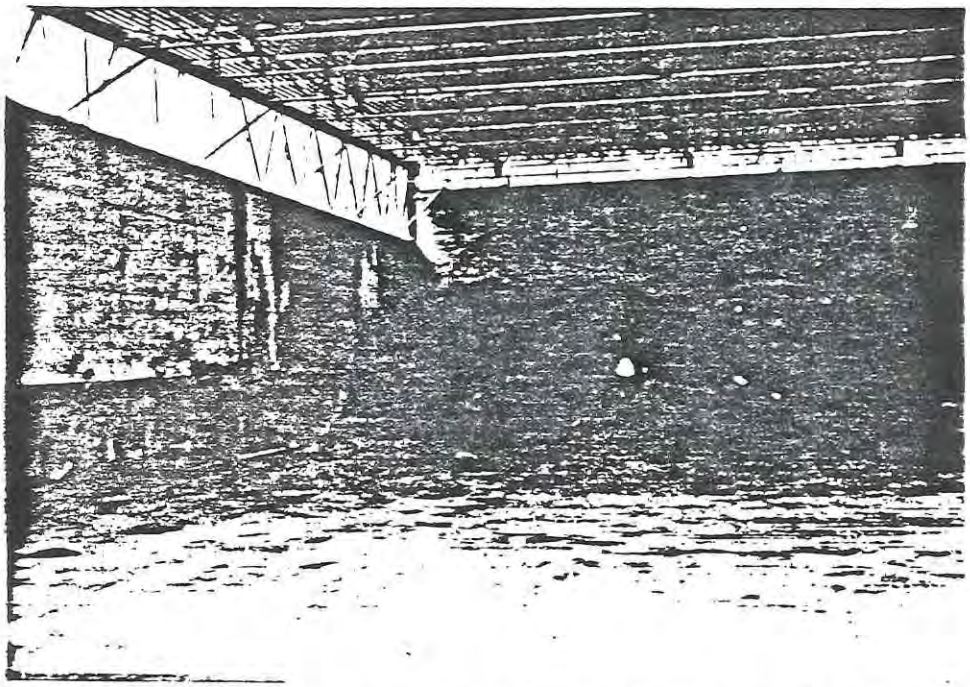


Photo No. 6 Date August 23, 1989 Inspector D. Rasmussen

Description Photo showing hard rubber chip waste pile located in battery receiving/storage shed. Note leachate runoff coming from pile at the right side of picture.

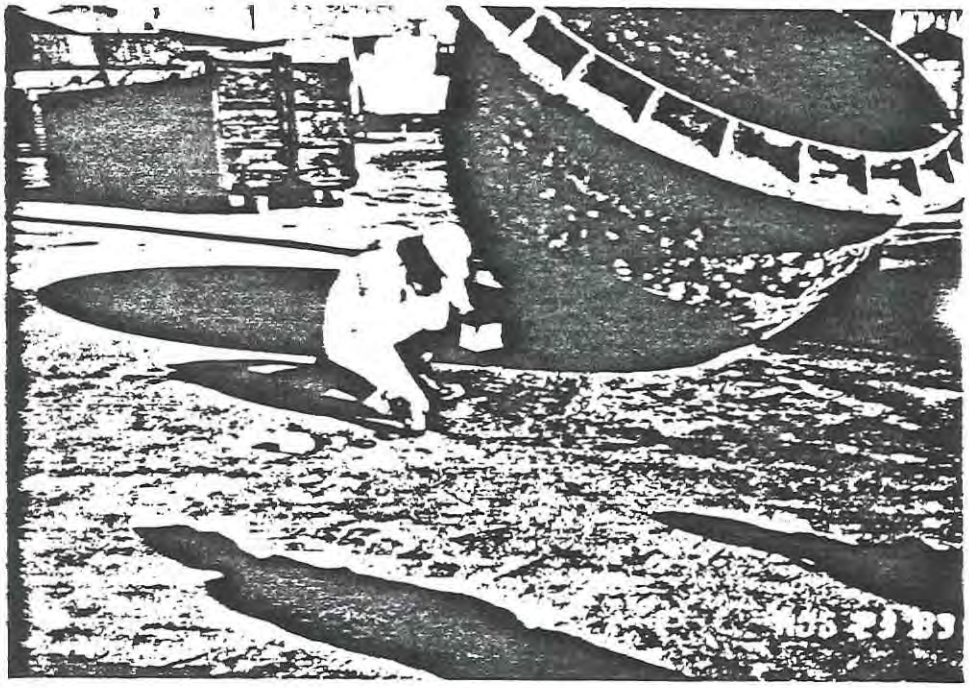


Photo No. 7 Date August 23, 1989 Inspector D. Rasmussen

Description View of discarded smelting pot located in the west yard. Hazardous waste levels of antimony and lead were found in the dust on the ground and in the cauldron.

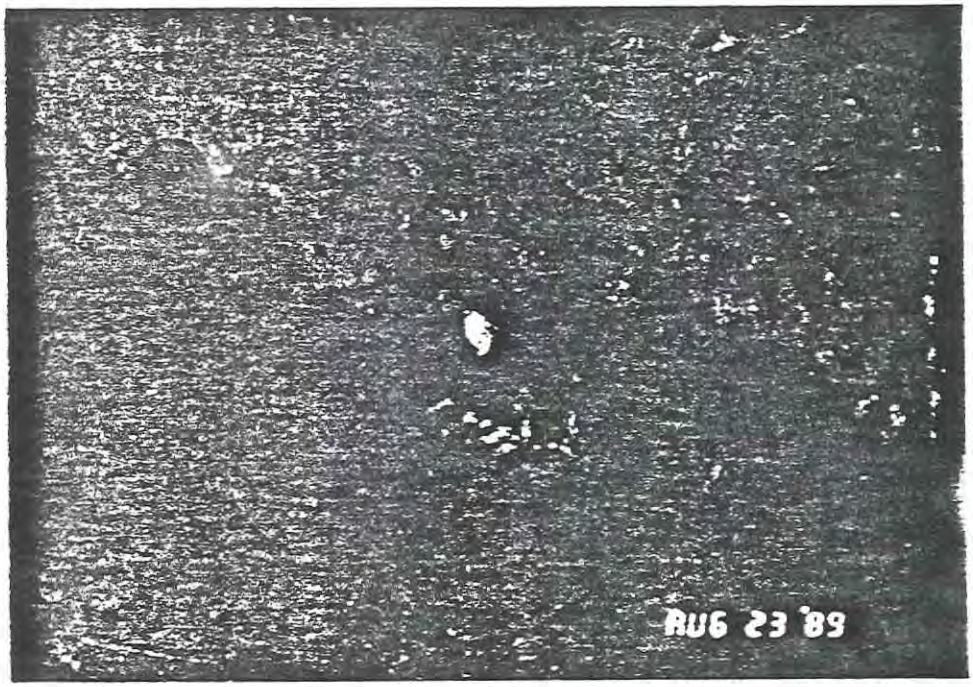


Photo No. 8 Date August 23, 1989 Inspector D. Rasmussen

Description Blast furnace feedstock pile in the furnace building. The Department of Health has determined the pile to consist of hazardous waste.

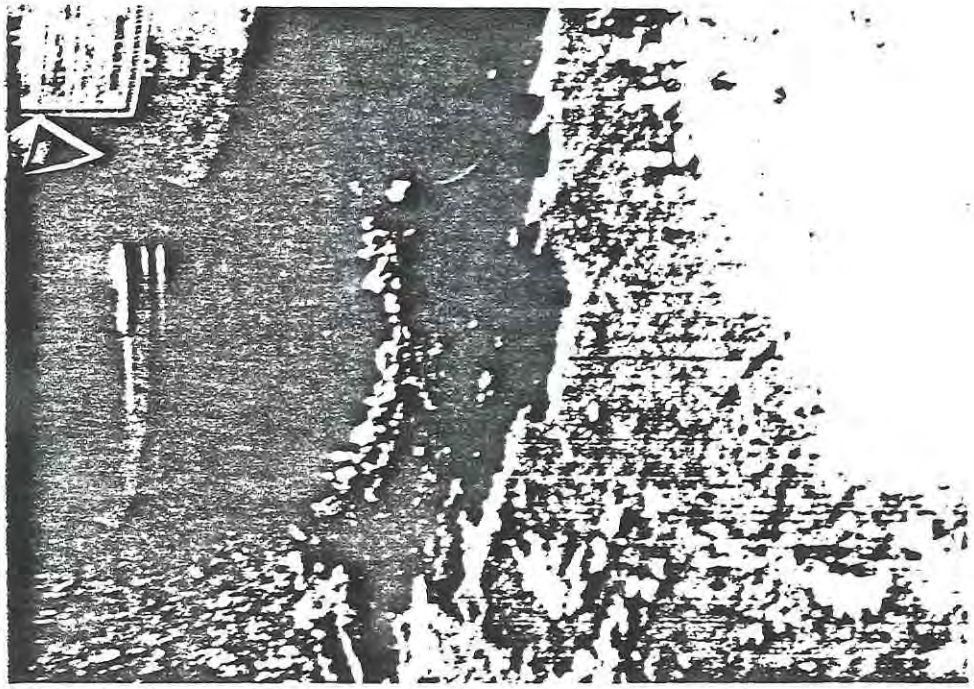


Photo No. 9 Date August 23, 1990 Inspector D. Rasmussen

Description Photo of leaking drum located under staircase at south end of the reverberatory furnace feedstock building. Note crystals growing at base of drum.

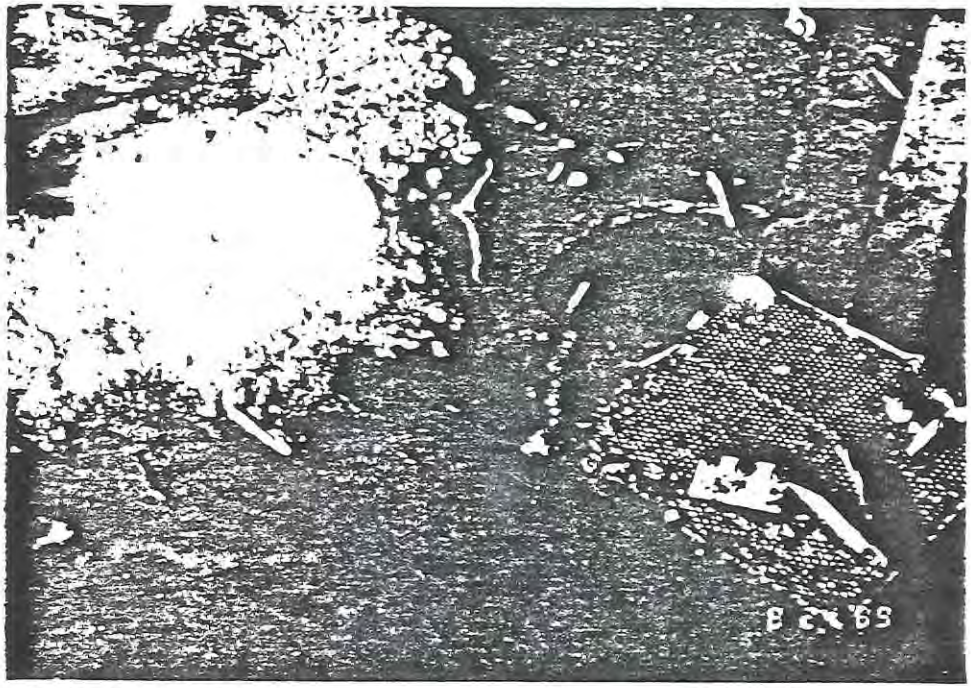


Photo No. 10 Date August 23, 1989 Inspector D. Rasmussen

Description Photo of battery parts and soda ash on floor area of battery receiving loading dock located at the southwest end of reverberatory furnace feedstock building. Date states Aug. 24, 1989 but was actually taken on Aug. 23, 1989.

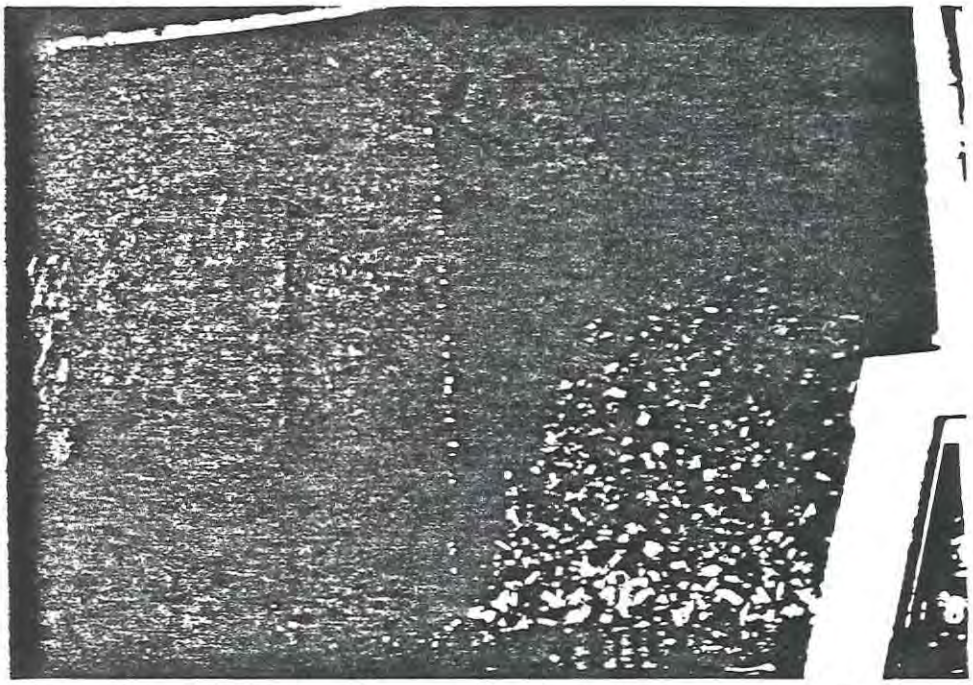


Photo No. 11 Date September 1, 1990 Inspector D. Rasmussen

Description Photo of polypropylene scrap hazardous waste being loaded into tractor trailer parked north of the electriation column. DHS samples taken from various loads of the polypropylene scrap have exhibited hazardous waste levels of lead.

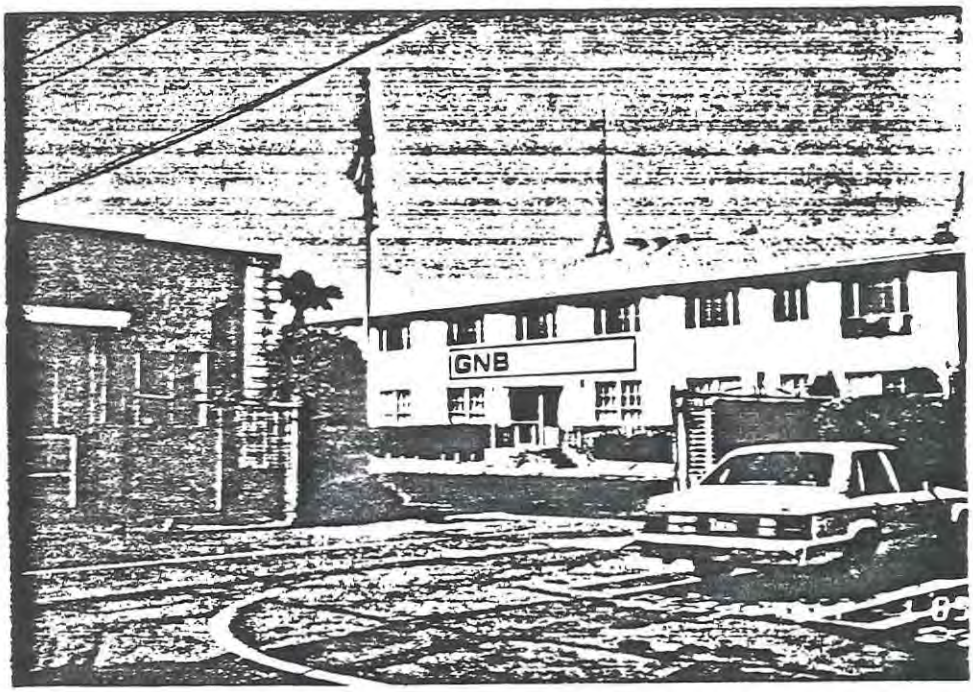


Photo No. 12 Date September 1, 1990 Inspector D. Rasmussen

Description Photo of the former engineering building at GNB. Photo is taken from employee parking lot facing southwest.

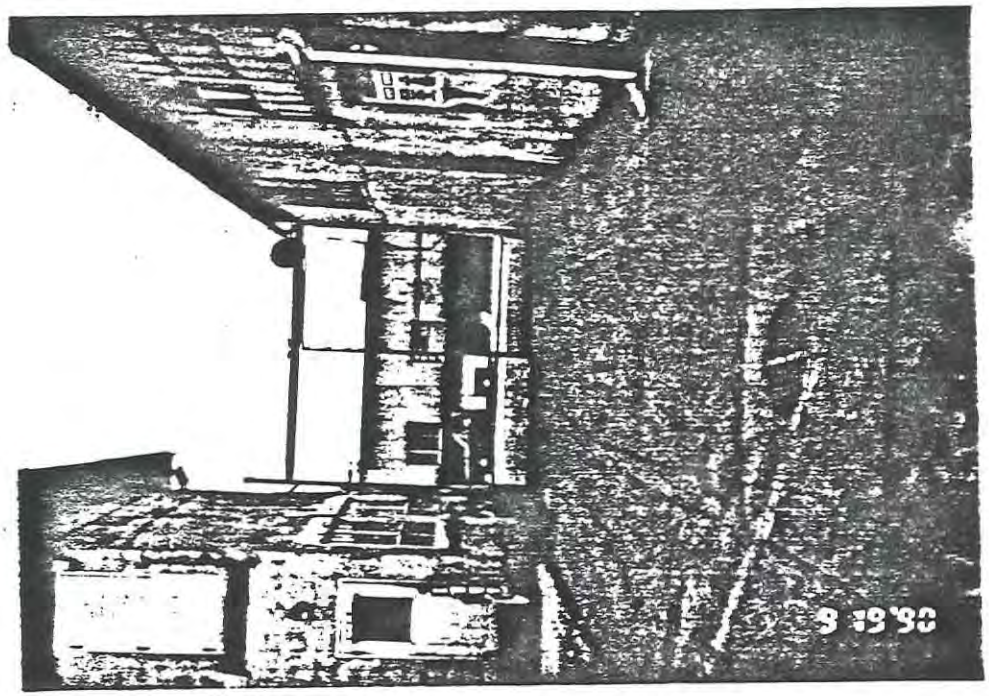


Photo No. 13 Date September 19, 1990 Inspector D. Rasmussen

Description Photo of the southeast gate at the GNB facility. Note sump in foreground with guard station in building on left side of gate.

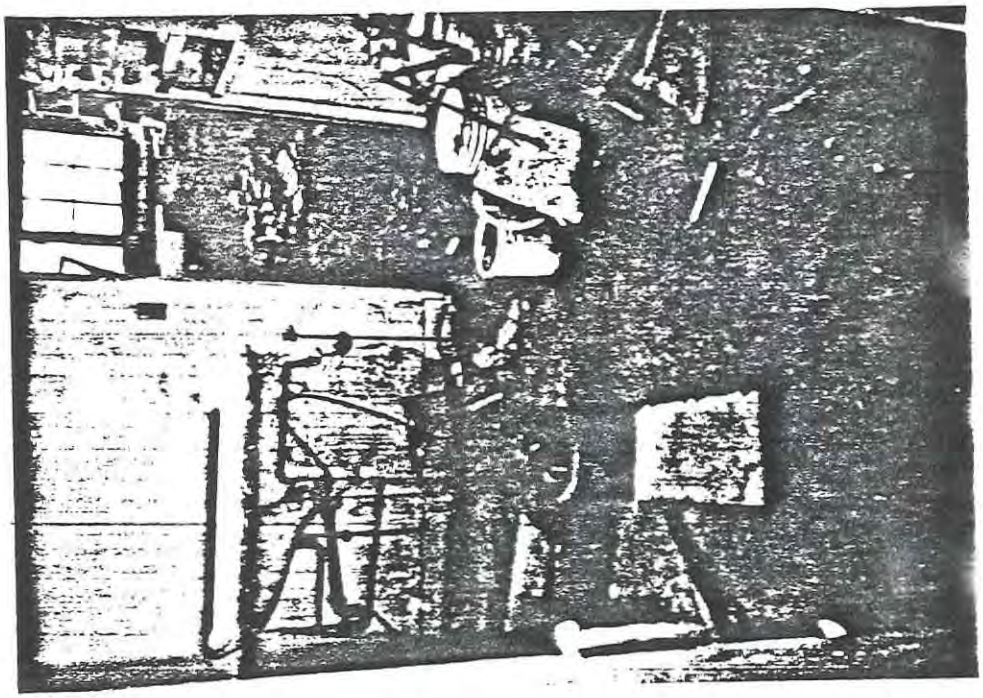


Photo No. 14 Date September 26, 1990 Inspector D. Rasmussen

Description Photo of unlabeled and improperly closed buckets of chemicals located in the former laboratory on the second floor of the former engineering building.

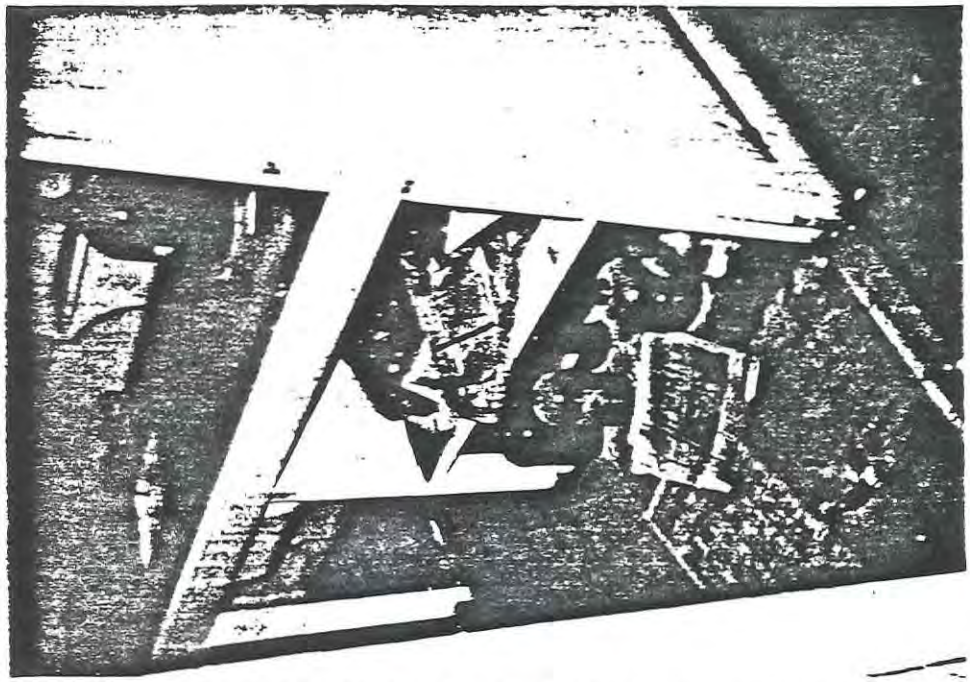


Photo No. 15 Date September 19, 1990 Inspector D. Rasmussen

Description Photo of former photo laboratory located on the second floor of the former engineering building.

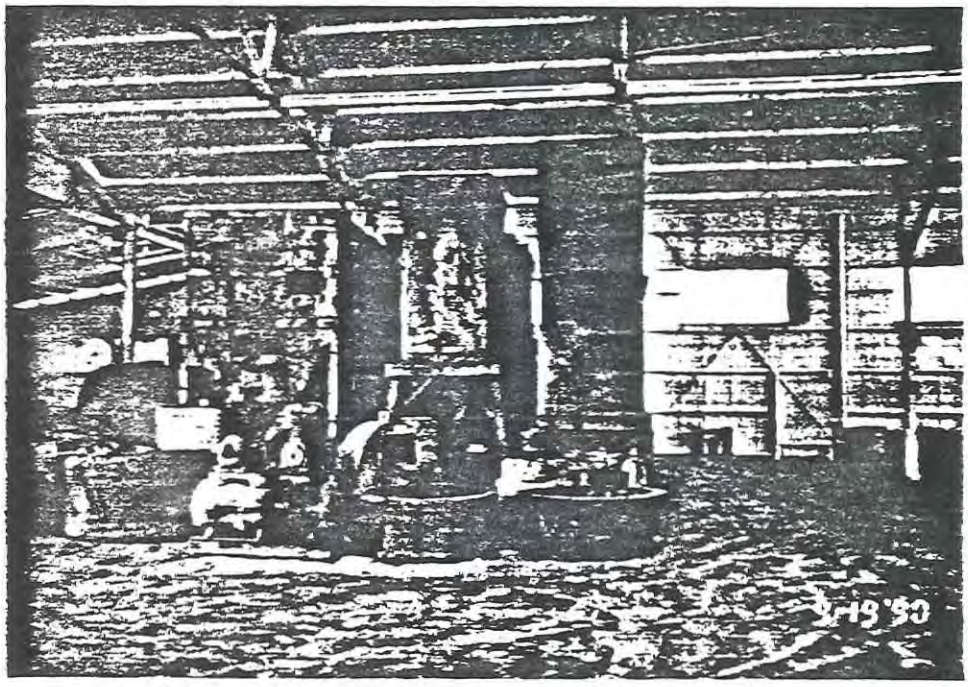


Photo No. 16 Date September 19, 1990 Inspector D. Rasmussen

Description Photo of interior of the former lead oxide building. Note storage of discarded machinery.

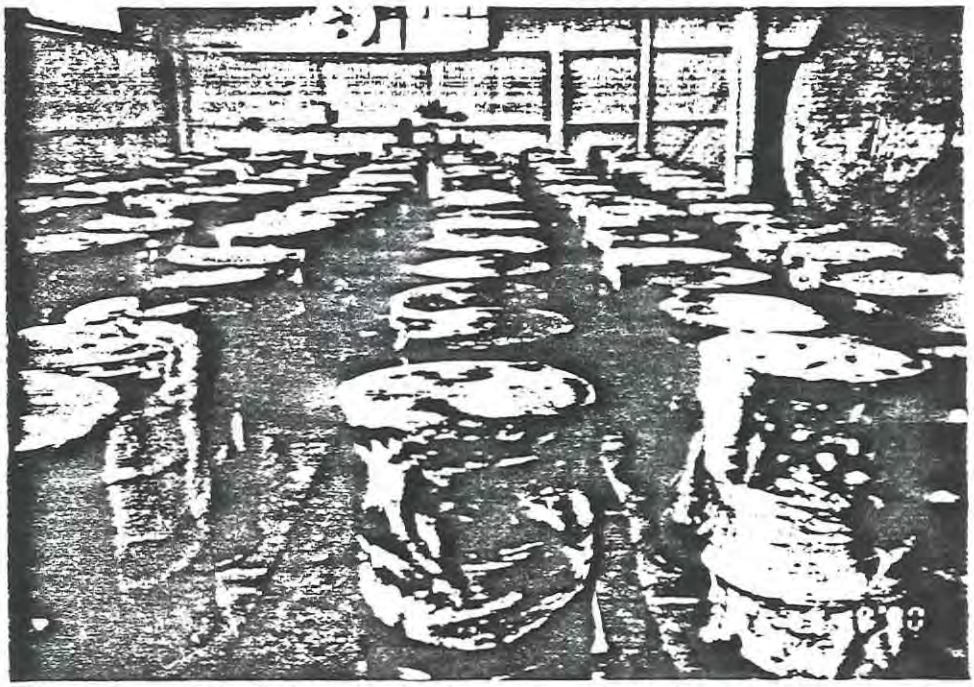


Photo No. 17 Date September 19, 1990 Inspector D. Rasmussen

Description Photo of drums of tin dross hazardous waste in the former lead oxide building.

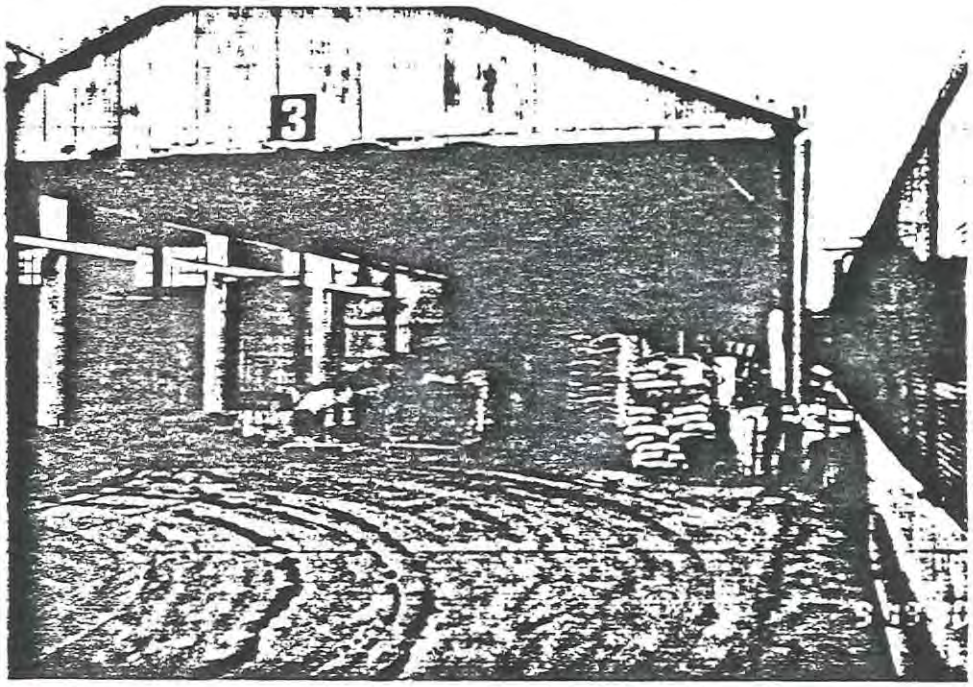


Photo No. 18 Date September 19, 1990 Inspector D. Rasmussen

Description Photo of former lead oxide warehouse. The building presently serves as storage for arsenic product and other materials.

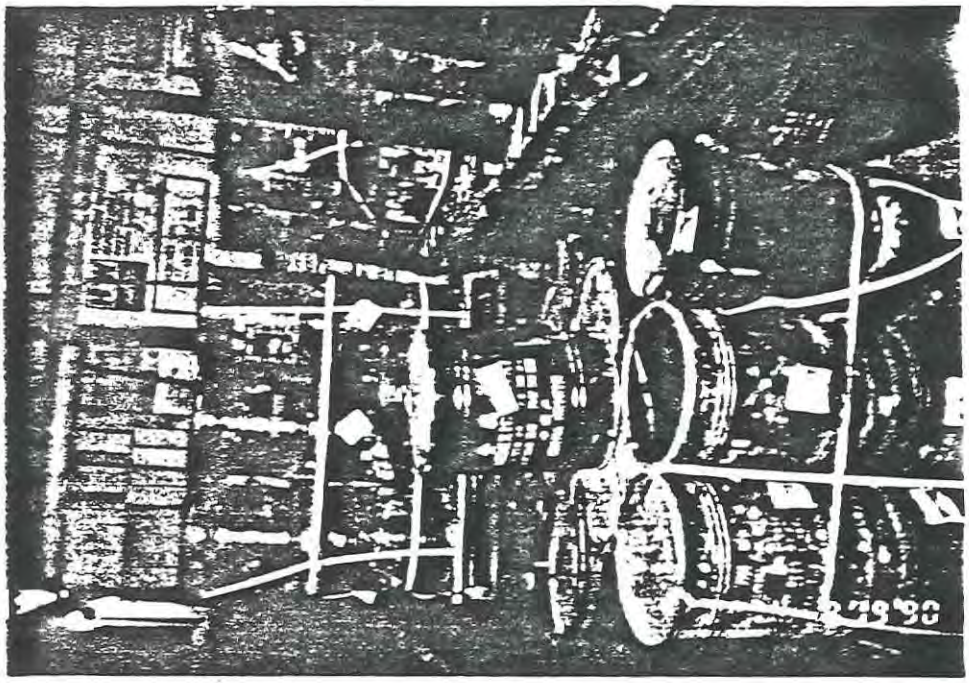


Photo No. 19 Date September 27, 1990 Inspector D. Rasmussen

Description Photo of arsenic product located in the former lead oxide warehouse.

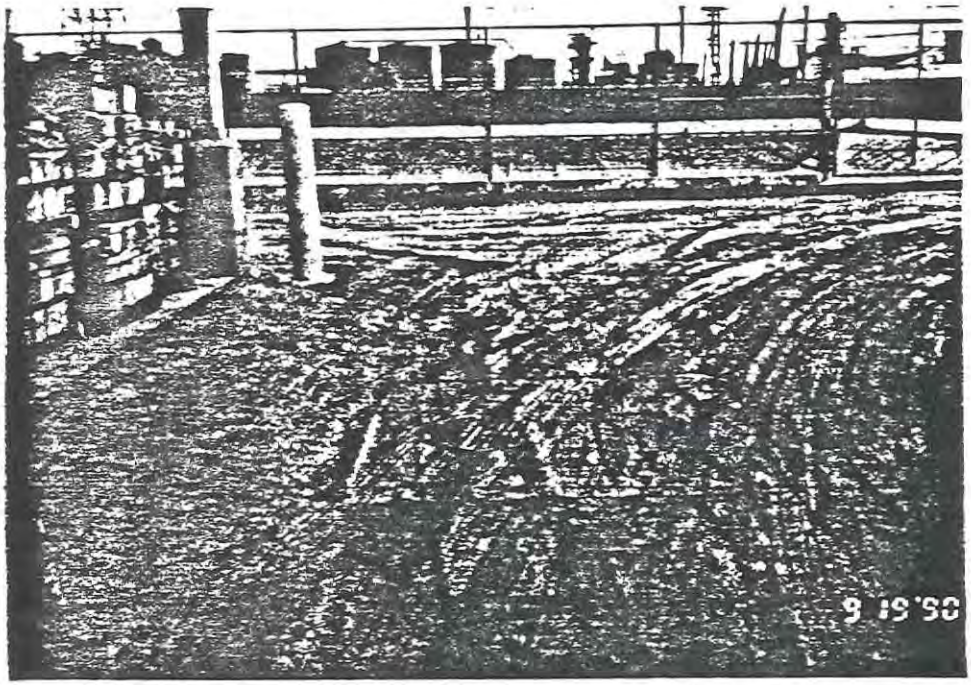


Photo No. 20 Date September 19, 1990 Inspector D. Rasmussen

Description Photo of sump located near the battery storage buildings.

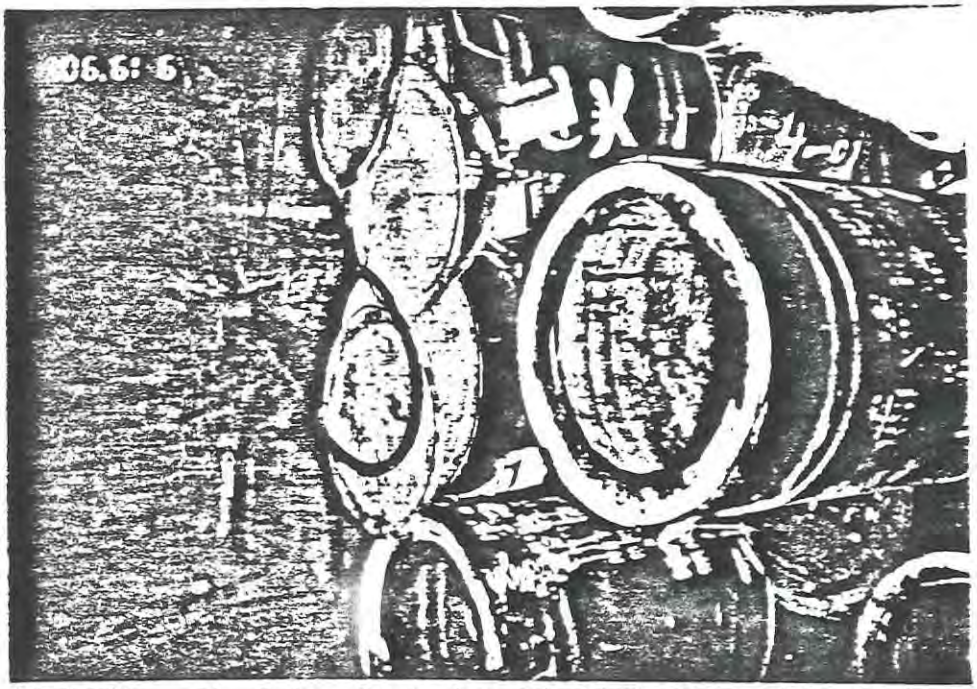


Photo No. 21 Date September 19, 1990 Inspector D. Rasmussen

Description Photo of open bucket of arsenic located at the southeast end of the furnace building.